NVR 3.0

System Administrator's Manual

For V3.0.02 Version

www.acti.com

2013/03/21

About This Manual

Target Audience

This manual is intended for **System Administrators** who are responsible for installing and setting up ACTi NVR 3.0 surveillance system. The reader is expected to know the fundamentals of IP surveillance system integration and to own the administrative privileges to achieve all the tasks.

You may also check video management system section on ACTi corporate website: http://www.acti.com/nvr3 for updates or release information about this software and document.

Content Overview

This manual provides information needed for planning the installation, installing, setting up the system and configuring the video streaming devices. Its main content consists of the following three sections:

- **Getting Started** provides the preparatory knowledge you should study before starting installation, such as system requirements, license registration and backup/restore procedures.

- **Log in to the System** explains how to log in to the system right after a successful installation.

- **System Setup** gives instructions on the tasks such as adding devices to the system, configuring the device settings, scheduling the recordings, managing events, managing storage, managing groups/users and setting up Live View. For each major task, you will be given a brief introduction of operation principles, step-by-step instructions, and a simple method to check if you have done it correctly.

Related Documentation

Since this manual focuses on how to accomplish the tasks for system installation and configurations, there is very limited information about operation-wise directions for **End Users** who will be operating NVR server system. To obtain the instructions on use of NVR applications such as monitoring and playback, please download the latest ACTi NVR 3.0 User's Manual from ACTi Corporation website via
http://www.acti.com/nvr3

Technical support

If you have any questions during system installation, please feel free to contact our engineers via our **Customer Help Desk** platform http://www.acti.com/CHD.

Conventions Used in This Manual

The following are typographic conventions used in this manual:

- **Bold**: Bold typeface is used for a keyword, major functions of NVR, or a title of a section/column.
- *Italic*: Italic typeface is used for a filename or location path.
- Underlined: Underlined typeface is used for a document name or hyperlink.
- "**Bold**": Bold interface enclosed in double quotation marks indicates the name of a button, a menu or a choice item.

Some notices are placed within the following boxes; each type of the box indicates different purposes or levels of importance for system:

Important Notice

The content within this box is an **important notice**. This notice is important for you to get certain functions to work properly, or to prevent from certain potential problems that may damage your system. Make sure you read this notice and follow the instructions.

Note

The content within this box is a **note**. A note is some necessary information you need to know about the action you are currently taking, like what will happen after you follow or don't follow certain procedure.

Tip

The content within this box is a **tip**. A tip gives you an alternative method to easily or quickly achieve an objective, usually for specific conditions.

Legal Notice

Disclaimer

- The information contained in this document is intended for general information purposes. ACTi Corporation shall not be liable for errors contained herein or for incidental or consequential damages arising from the furnishing, performance, or use of this manual.

- The information contained herein is subject to change without notice.

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Overview

ACTi NVR 3.0 is a Windows-based software that provides distributed network video surveillance solution with full functionality. This software supports centralized management, real-time monitoring and recording of up to **100** ACTi video streaming devices from local or remote network, with rule-based services to trigger multiple schedules and events.

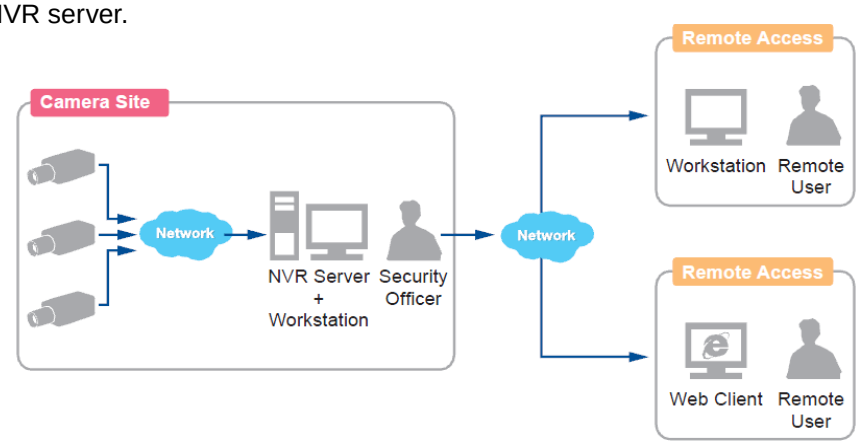
ACTi NVR Server / Client Architecture

ACTi NVR 3.0 is a typical web-based server/client system. In a video surveillance system architecture, the **Server** serves as a video management service provider, aimed to run 24/7 offering non-stop services for clients. A **Client** makes requests of monitoring video streams or playback recordings to **Server**, which can reside on the same computer with server program (as from local) or on another computer (as from remote). **Server** starts automatically as soon as the **Server computer** (where it is installed) boots up, and operates in the background without requiring login by administrator. It would provide services over the TCP/IP network to multiple **Clients** upon request through HTTP Protocol.

There are two types of **Clients** in NVR 3.0 system: **Web Client** and **Workstation Client**. A user, connecting from whether web browser or workstation, will enjoy the same user interface and NVR functions.

- **Web Client**: the web version of interface to access NVR server without need of installing any client program to become a client. Logging in the NVR server is as simple as visiting a website through IE browser.

- **Workstation Client:** the client application making accessing NVR server free from the use of browser .The workstation includes a set of programs that provide interface between users and the NVR server.



System Installation Check List

Pre-installation				
Item		**Task**	**Description**	**Reference**
1	☐	Prepare software license	ACTi NVR 3.0 comes with 16-channel free license. For additional channels, please purchase the license from your system supplier and get the license information ready before activation.	How does Activation Work on page 22
2	☐	Prepare the server computer	Make sure the computer's hardware spec, O/S and IE browser version are compatible with software requirements.	System Requirements on page 14
3	☐	Assign a fixed IP for server computer	The server computer should have a fixed IP to be used by NVR 3.0 server.	
4	☐	Set up Active Directory (Optional)	To add users through the Active Directory service, please make sure an Active Directory server is available on your domain.	
Installation				
Item		**Task**	**Description**	**Reference**
5	☐	Install ACTi NVR 3.0 server software	Follow the instructions to install the software on server computer.	Server Installation on page 17
6	☐	Check if the installation is successful	Log in to NVR to check if you can see the login page. (On server computer, type http://localhost/ in browser's URL bar).	Log In To the System on page 27
7	☐	Activate the license (Optional)	Activate your license key to get your required number of channels ready for adding devices.	
Configuring the Devices				
Item		**Task**	**Description**	**Reference**
8	☐	Get the devices connected and ready for use	Finish the installation and basic settings of all devices (IP address, usernames, passwords), and attach any external hardware devices (alarm or sensor) if necessary.	
9	☐	Connect external devices with the NVR Client PC	Attach external hardware devices such as the joystick or microphone to the client computer.	Joystick on page 99
System Setup				
Item		**Task**	**Description**	**Reference**
10	☐	Configure the Storage Settings	Activate the disks for recordings and make sure their size is sufficient.	Storage Management on page 75
11	☐	Add devices to NVR server	Add devices and configure camera settings: camera name, video/motion/PTZ settings	Add Devices on page 36; Configure Device Settings on page 44

12	☐	Configure Recording Schedule	**By default, each device will start 7/24 schedule recording as soon as it is added**. Setup recording schedule for each device, and how many days the device's recordings are kept on disk.	Schedule Recordings on page 57
13	☐	Configure Email & FTP settings	Fill in the Email or FTP settings and test if NVR server succeeds in sending emails and transferring files. This step is necessary if you will use these functions for Event Handling.	How to Setup SMTP Settings for Event Rules on page 69 ; How to Setup FTP Settings for Event Rules on page 70
14	☐	Configure Event rules	Set up the event rules	How to Edit an Event Rule on page 65
15	☐	Create Users Accounts & Groups	Configure User Group access and device permissions; create required User Accounts.	Manage User Groups/ Users on page 77

Live View Setup

Item		Task	Description	Reference
16	☐	Create Views for Users	Create views and configure the settings: Layout style or Patrol.	Customize Views on page 83

Backup System Settings

Item		Task	Description	Reference
17	☐	Create backup of system settings	Create a backup file of current system settings for future re-installation or in case of critical system failure.	Backup System Data on page 102

Post-installation Validation

Item		Item	Description	Reference
18	☐	Live Preview basic operations	Make sure if user is able to see the live view with saved layouts and perform basic operations (e.g. PTZ controls or instant playback).	User's Manual
19	☐	Schedule Recording	Make sure the disk is recording normally according to schedule	
20	☐	Event Handling	Check if the expected actions (e.g. recording, alarms or email notification, etc) are triggered by events.	
21	☐	User Access	Make sure user can access NVR with right account/password, and perform operations based on given user rights.	
22	☐	Playback	Make sure user can perform playback and video search, and the export function can generate viewable files to designated folder.	

Getting Started

System Requirements

The performance of NVR is largely determined by the hardware PC capability. The table below provides basic guidelines for selecting proper hardware (*1). The minimum required hardware will provide acceptable performance for systems that use mostly MPEG4 streams. Surveillance systems that use 4 or more H.264 streams should satisfy **Recommended System Spec** for good performance.

PC Spec (*2)	Server + Local Client PC		Server PC Only	Remote Client PC	
Channel Number (*3)	**1-16**	**17-100**	**1-100**	**1-16**	**17-100**
CPU Processor	Intel Core 2 Quad 2.4GHz	Intel Core i7-920 2.67 GHz	Intel Core 2 Quad 2.4GHz	Intel Core 2 Quad 2.4GHz	Intel Core i7-920 2.67 GHz
RAM	4GB				
Network	Ethernet (1000 Base-T recommended)				
Hard Disk (*4) Space	Minimum **40 GB** (*5)			Browser Client: No minimum requirement	
Operation System	Both 32/64 bit versions, updated to latest service packs (*6): Windows 7, Windows Server 2008, Windows Vista, Windows Server 2003, Windows XP				
Display Resolution	Minimum: 1024 X 768				
Browser	32 bit Internet Explorer 8 and 9				
Recommended System Spec O/S:Windows7 (latest service packs), Browser: Internet Explorer 9 (Web client), CPU: Intel Core i7-920 2.67 GHz, RAM:4GB, Disk Space: 40G, Minimum Display Resolution:1024 X 768, Network Adapter: Ethernet 1000 Base-T					

*1 These specifications are based on following camera settings:

Single stream mode →1280x1024, 3Mbps, 18fps, MPEG-4

Dual stream mode→1280x1024, 3Mbps, 18fps, H.264 (recording);
640x480, Quality: 100, 18fps, MJPEG (live view).

*2 PC Spec requirements are the same for 32-bit and 64-bit systems.

*3 Live view for multiple channels requires good hardware for smooth performance. For more channels or heavy use of high resolution streaming, it is good to adopt computers with more advanced specifications than the requirements we suggest.

*4 Supports local hard drives and iSCSI NAS.

*5 The required free space of the disk drive where NVR is installed should be at least 40 GB at all times; however, the actual necessary space depends on number of devices, recording and event rules settings. To get an approximate value, you may use the software tool – Storage & Bandwidth Calculator provided on http://www.acti.com/project_planner/ by ACTi. It is also recommended to use a separate disk for video recordings.

*6 Please make sure your operation system is fully patched with the latest service packs.

Prerequisites

These prerequisites below are necessary before installation:

1. Suitable System Specifications

Ensure that the server computer meets the minimum system requirements, and that the server computer has **C Drive**.

2. Uninstall Previous ACTi NVR 2.X Server

NVR 3.0 server and NVR 2.X server cannot co-exist on the same server computer. You can find instructions on System Migration on page 105 for how to perform a NVR system migration.

3. More than 20 GB Space on Storage Drive

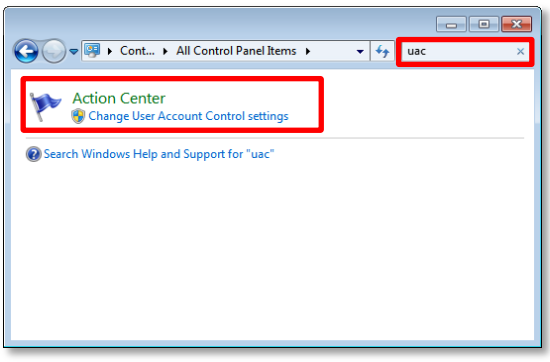
Please make at least 20 GB memory space on the storage disk drive (40 GB is recommended). You may choose different disk drive on **Setup** page→**Storage** tab.

4. Turn Off UAC in Windows

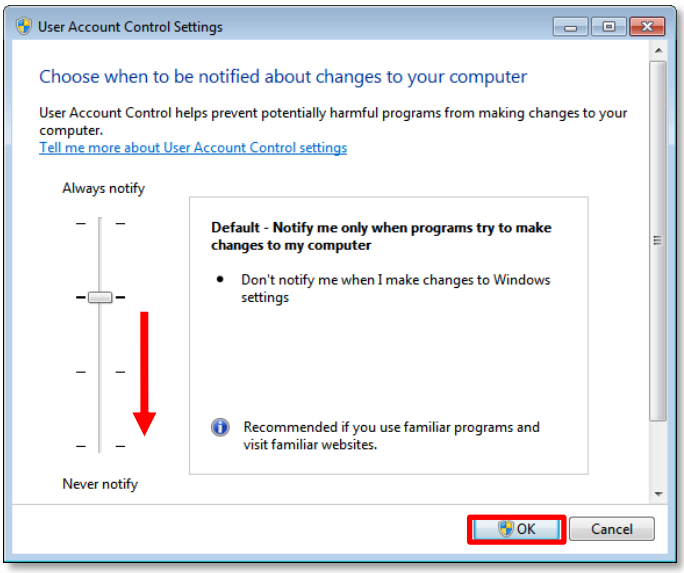
UAC (User Access Control) is a security setting that restricts access in Microsoft Windows Vista and Windows 7. You must disable UAC before installing NVR in Windows Vista and Windows 7, for the installation of application components and certain program features would be interrupted by this security rule. You may disable UAC through Windows control panel.

Disable UAC in Windows 7

1. Go to **Windows Control Panel**, type "**UAC**" in search box.
2. Click "**Change User Account Control settings**"

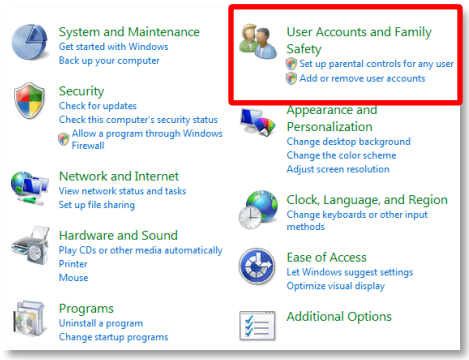

Cont... ▸ All Control Panel Items ▸
uac
Action Center
Change User Account Control settings
Search Windows Help and Support for "uac"

3. Move the slider to "**Never notify position**", and then click "**OK**". You will have to restart the computer for this change to take place.


User Account Control Settings
Choose when to be notified about changes to your computer
User Account Control helps prevent potentially harmful programs from making changes to your computer.
Tell me more about User Account Control settings
Always notify
Default - Notify me only when programs try to make changes to my computer
Don't notify me when I make changes to Windows settings
Recommended if you use familiar programs and visit familiar websites.
Never notify
OK
Cancel

Disable UAC in Windows Vista

1. Go to **Windows Control Panel**, click "**User Account and Family safety"**.



2. Select the account, then "**Turn User Account Control on or off**".
3. On the "**Turn on User Account Control (UAC) to make your computer more secure**" window, uncheck the "**Use User Account Control (UAC) to help protect your computer**". Click on the "**OK**" to apply, you will have to restart the computer for this change to take place.

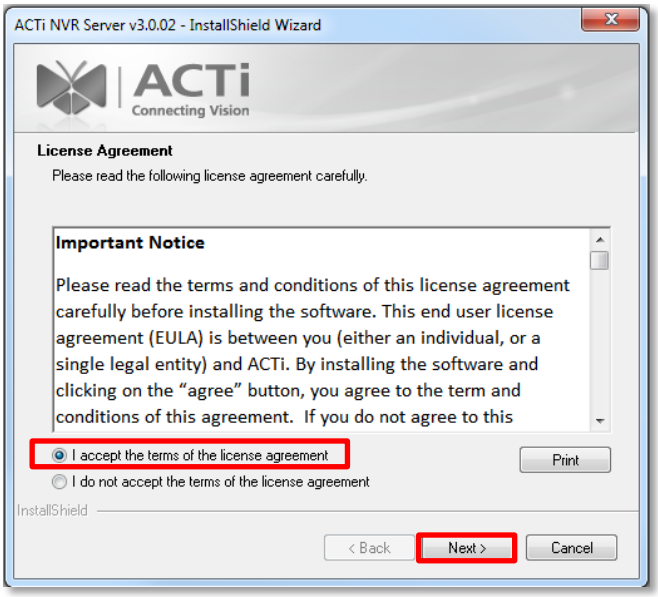
« Turn User ...
Search
File Edit View Tools Help
Turn on User Account Control (UAC) to make your computer more secure
User Account Control (UAC) can help prevent unauthorized changes to your computer. We recommend that you leave UAC turned on to help protect your computer.
Use User Account Control (UAC) to help protect your computer
OK
Cancel

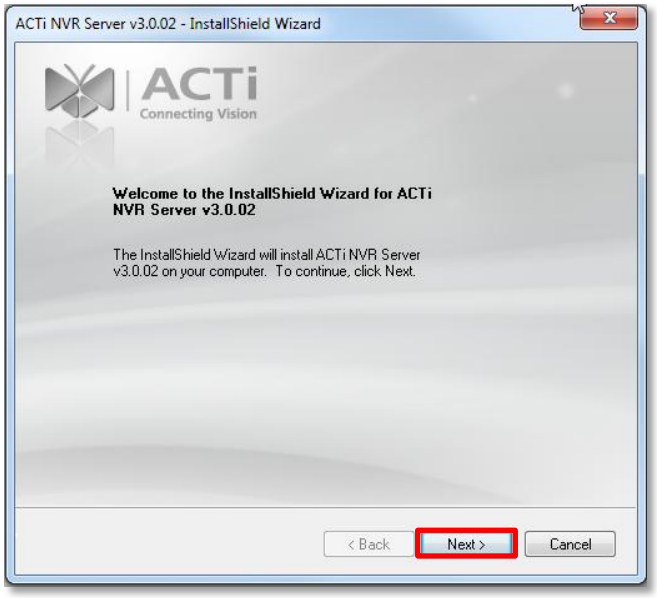
Server Installation

The server program installation is as easy as 1-2-3 by following the installation wizard's instructions. The server would start its service right after installation completes, without the need to restart the server computer.

Install the Software

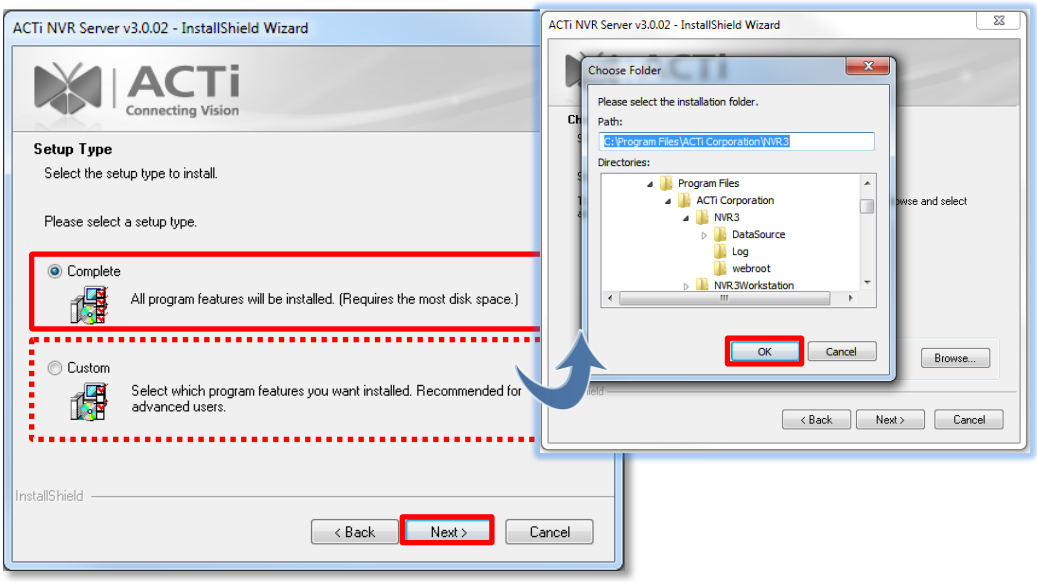
1. Execute "**ACTi_NVR_Server_v3.0.02.exe**" installation application.
2. Follow the onscreen instructions of **Install Shield Wizard**, accept the license agreement and proceed.


ACTi NVR Server v3.0.02 - InstallShield Wizard
ACTi
Connecting Vision
License Agreement
Please read the following license agreement carefully.
Important Notice
Please read the terms and conditions of this license agreement carefully before installing the software. This end user license agreement (EULA) is between you (either an individual, or a single legal entity) and ACTi. By installing the software and clicking on the "agree" button, you agree to the term and conditions of this agreement. If you do not agree to this
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
InstallShield
< Back
Next >
Cancel

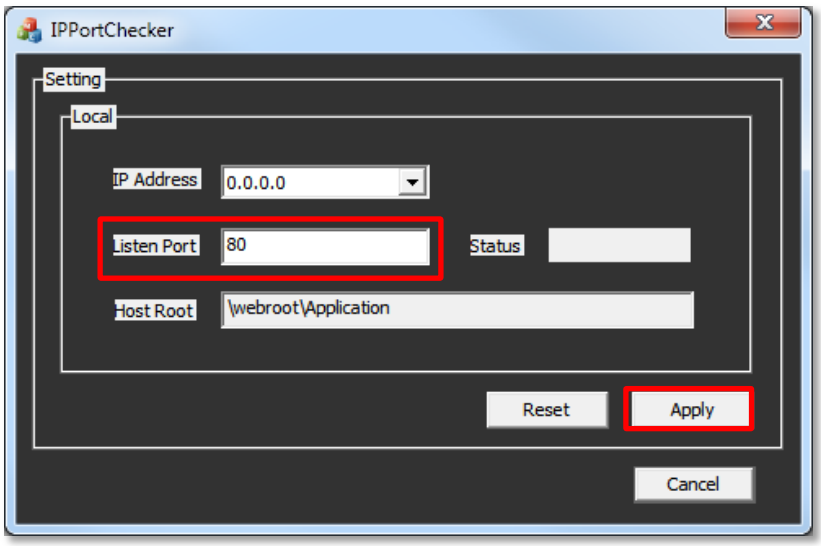

ACTi NVR Server v3.0.02 - InstallShield Wizard
ACTi
Connecting Vision
Welcome to the InstallShield Wizard for ACTi NVR Server v3.0.02
The InstallShield Wizard will install ACTi NVR Server v3.0.02 on your computer. To continue, click Next.
< Back
Next >
Cancel

When selecting **Setup Type**, the default "**Complete**" will have the program installed on

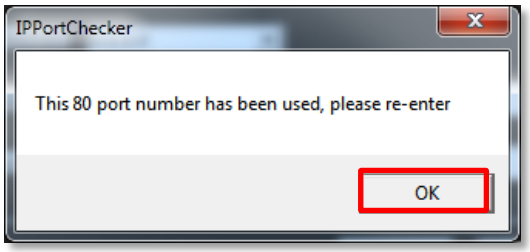
default **C drive**, you may select "**Custom**" to choose another program location.



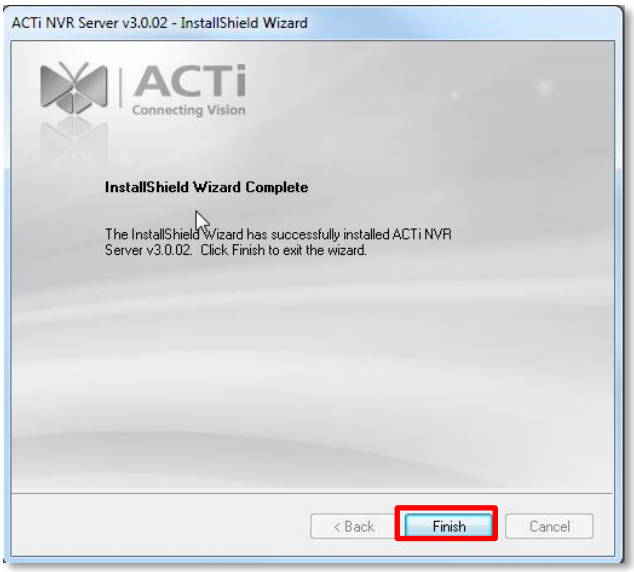
3. The **IP Port Checker** will pop up to confirm the NVR port number with you. The installation program will use **80** as default. You may enter another available port number in "**Listen Port**" field and click "**Apply**".



You may just click "**Apply**" if you are not sure whether this port has been taken or not. If the port is being used by another service, you will be asked to input another available port number.



4. As the server port is confirmed, the installation process is done, click "**Finish**".


ACTi NVR Server v3.0.02 - InstallShield Wizard
ACTi
Connecting Vision
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed ACTi NVR Server v3.0.02. Click Finish to exit the wizard.
< Back
Finish
Cancel

5. After the installation completes, connect to http://localhost:port number with Internet Explorer browser, you will see NVR Login page.

Note

If IIS Web Server has been installed on the computer and you are asked to restart the computer during installation process, please

1. Choose Yes, I want to restart my computer now. to restart right away.
2. After the computer reboots. execute this install shield gain, and continue to complete the installation.

Important Notice

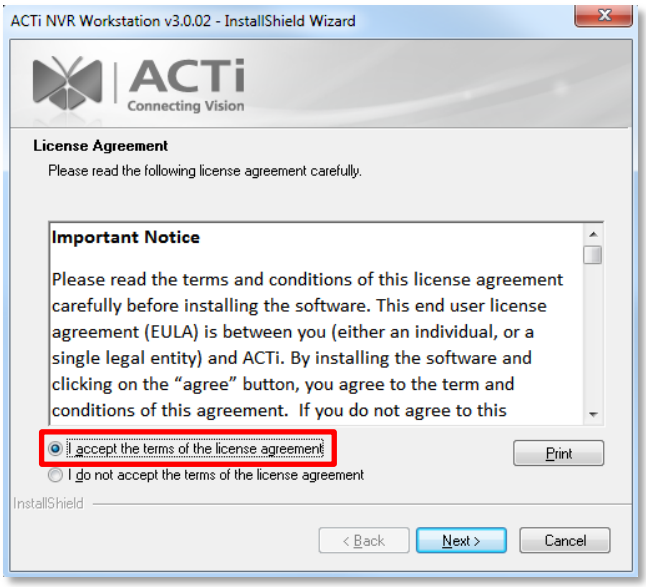
If the server computer has already installed previous ACTi NVR server 2.X versions, please remove the main program and patches from **Windows→ Control Panel** before installing ACTi NVR 3.0; or you should choose another computer as ACTI NVR 3.0 server computer.

Workstation Installation

NVR Workstation includes a set of programs that provide interface between users and the NVR server. It may be installed on the same PC as the NVR server, or they may be installed separately and connect to NVR Server via network.

Install the Software

1. Execute "**ACTi_NVR_Workstation_Install_v3.0.02.exe**" installation application.
2. Follow the onscreen instructions of Install Shield Wizard, accept the license agreement and proceed.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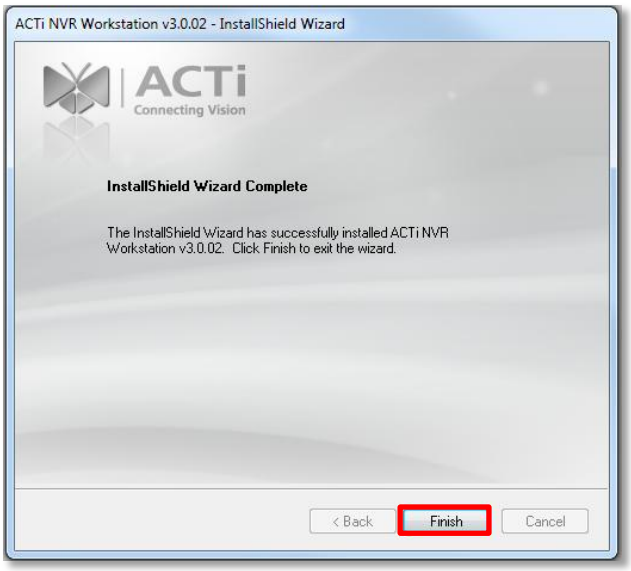
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
InstallShield
< Back
Next >
Cancel


ACTi NVR Workstation v3.0.02 - InstallShield Wizard
ACTi
Connecting Vision
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed ACTi NVR Workstation v3.0.02. Click Finish to exit the wizard.
< Back
Finish
Cancel

3. After the installation completes, double-click the shortcut

on desktop to execute the application.

License and Activation

In NVR 3.0 system, each of the channels should have a license. The licenses can be accumulative. Upon installation, ACTi provides free licenses for **16** channels. To get more channels, you should contact local distributors or ACTi sales representatives to purchase the licenses and acquire the **License Key**. **License Key** is delivered as a printed license card or by email. Upon the activation of extra license, the additional channels will automatically become available.

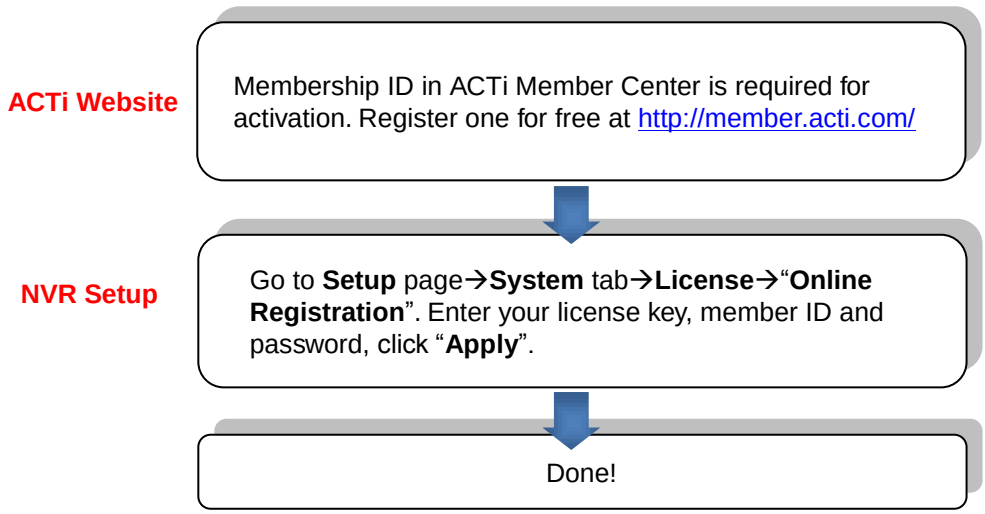
How does Activation Work

During license activation, your **License Key** is matched against the MAC address of the Network Interface Card (NIC) on server computer. Once this license key is used by the PC with given MAC, it cannot be activated with another MAC. This matching record will be stored on the ACTi web server. If your computer has more than one network card, NVR will detect them and provide you a dropdown list to select from.

There are two ways of license activation:

Online Activation Flow

Online activation requires Internet access from NVR server computer. If you have Internet connection available from your NVR server computer, you should register online.


ACTi Website
Membership ID in ACTi Member Center is required for activation. Register one for free at http://member.acti.com/
NVR Setup
Go to Setup page→System tab→License→"Online Registration". Enter your license key, member ID and password, click "Apply".
Done!

Offline Activation Flow

Offline activation does not require Internet access from NVR. It is used when NVR is located in network not connected to public Internet. If you do not have Internet connection available from your NVR (e.g. in a restricted military base), you will need to get a license file from another computer and transfer it to NVR server computer.

ACTi Website — Membership ID in ACTi Member Center is required for activation. Register one for free at http://member.acti.com/

↓

ACTi Website — Connect to www.acti.com. Go to **Support** → **Customer Services**: License Registration. Select your product to register.

↓

ACTi Website — Enter your **License Key** and the **MAC address**. Click "**Submit**" to generate activation file.

↓

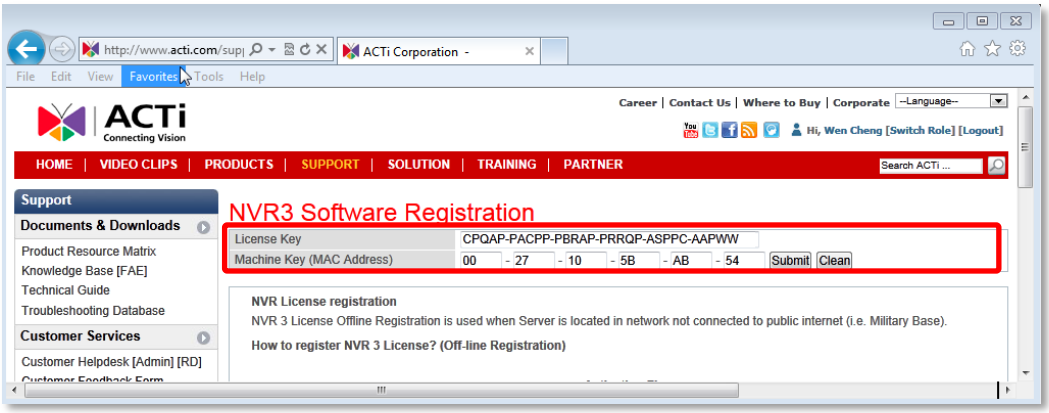
Mailbox — An email with activation code file (.lic) will be sent to your registered email. Transfer this license file to NVR server or web client PC.

↓

NVR Setup — Log in NVR server from local or via web client. Go to **Setup** → **System** tab → **License** → "**Offline Registration**"→ click "**Import**" and select the license file. Click "**Apply**" to activate this license.

↓

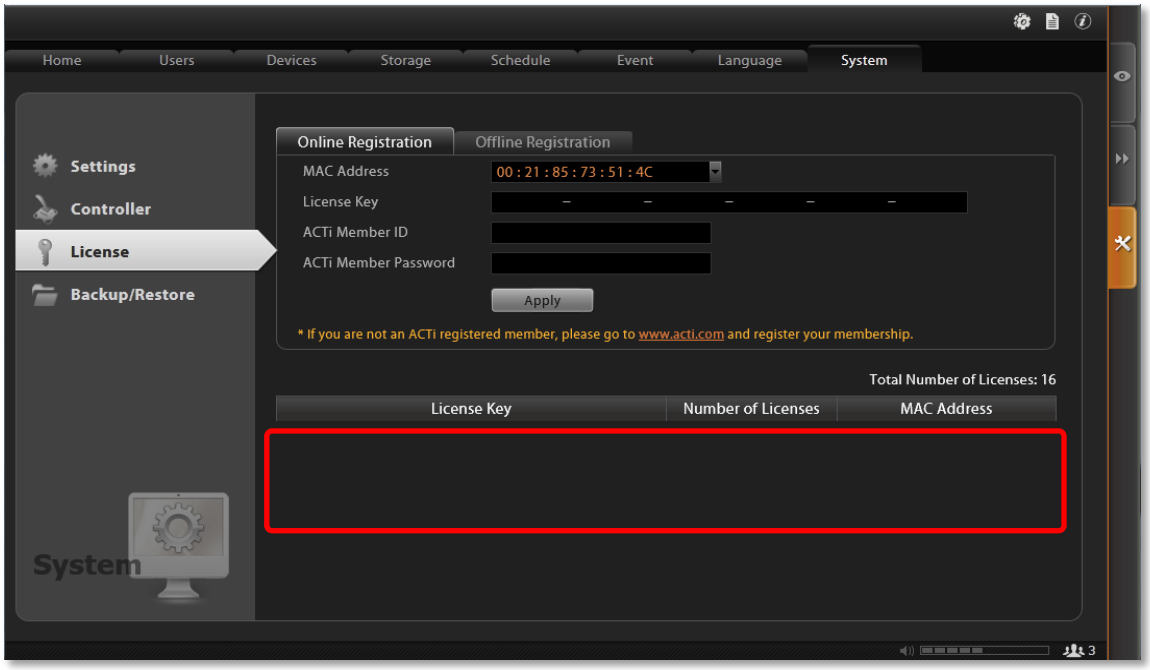
Done!


ACTi Corporation
ACTi
Connecting Vision
HOME | VIDEO CLIPS | PRODUCTS | SUPPORT | SOLUTION | TRAINING | PARTNER
Support
Documents & Downloads
Product Resource Matrix
Knowledge Base [FAE]
Technical Guide
Troubleshooting Database
Customer Services
Customer Helpdesk [Admin] [RD]
NVR3 Software Registration
License Key
CPQAP-PACPP-PBRAP-PRRQP-ASPPC-AAPWW
Machine Key (MAC Address)
00 - 27 - 10 - 5B - AB - 54
Submit
Clean
NVR License registration
NVR 3 License Offline Registration is used when Server is located in network not connected to public internet (i.e. Military Base).
How to register NVR 3 License? (Off-line Registration)

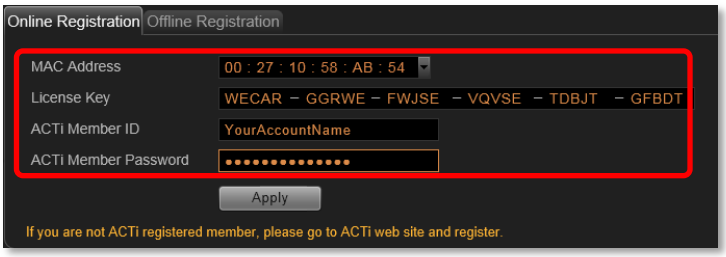
Activate the License

Before activating the license, you need to prepare (1) **License Key**, (2) your ACTi member account and password (if you are not a member, you may register on ACTi corporate website for free), and (3) the MAC address of server computer's network card (if using Offline Activation).

1. Go to **Setup** page→**System** tab→**License**. On the screen shows number of channels under your current license, and the license keys applied before. For the first time you enter this page, the **Total Number of extra Licenses** is **0**.
2. Choose "**Online Registration**" or "**Offline Registration**" to proceed.



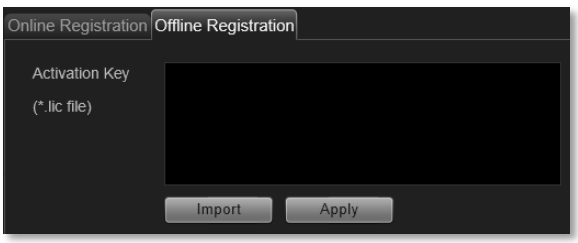
On **Online Registration** screen:


Online Registration
Offline Registration
MAC Address
00 : 27 : 10 : 58 : AB : 54
License Key
WECAR - GGRWE - FWJSE - VQVSE - TDBJT - GFBDT
ACTi Member ID
YourAccountName
ACTi Member Password
Apply
If you are not ACTi registered member, please go to ACTi web site and register.

1. Select the MAC Address of network interface card.
2. Enter the 30-digit license key.
3. Input your ACTi member ID and password.
4. Click "**Apply**", NVR will connect to the server to register the license key, and allow more channels in the system.

On **Offline Registration** screen:

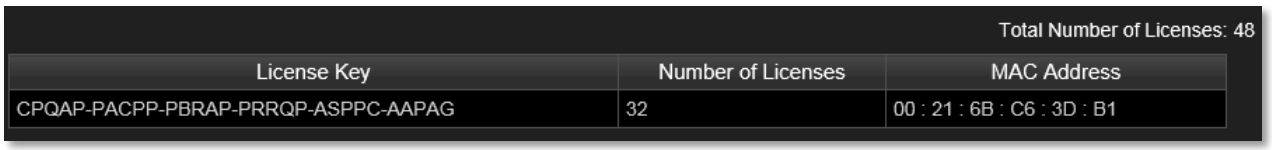
After you obtain the activation file, go to **Setup** page→**System** tab→**License**



1. Click "**Import**" button to load the activation code file as .lic file format.
2. Click" **Apply**"".

Verify Your License

Once your license is successfully activated, the license information will be shown on **License** page.



Total Number of Licenses: 48

License Key	Number of Licenses	MAC Address
CPQAP-PACPP-PBRAP-PRRQP-ASPPC-AAPAG	32	00 : 21 : 6B : C6 : 3D : B1

Important Notice

The license data will be erased once NVR 3.0 is uninstalled. Be sure to keep your license key information in a safe place because you may need to reinstall the software. After the software is uninstalled, you should contact ACTi Customer Help Desk to clear the original registration data in our database, and then you may register and activate the license again.

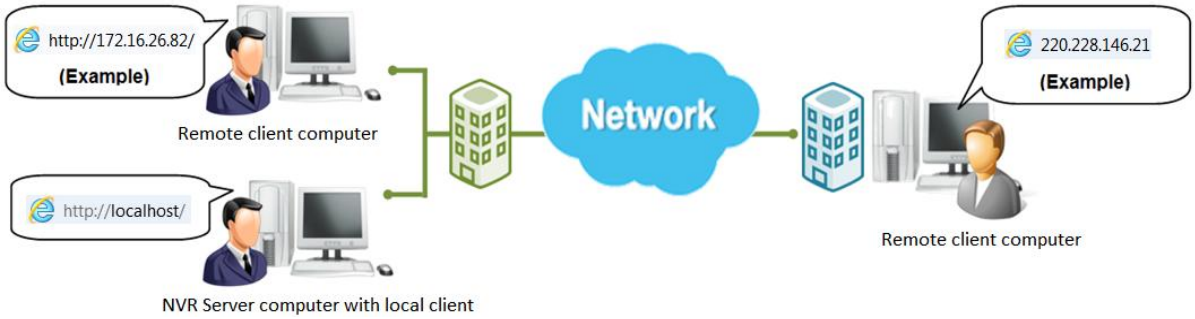
Tip

How to find the MAC Address

1. Click **Windows Start**, in the run box on **Start** menu, input "**cmd**".
2. Execute the **cmd** program, and input the command "**ipconfig /all**" or "**getmac**"
3. The MAC address will be referred to as the **Physical Address**, made up of 12 characters
   e.g. **00-1E-65-FE-8E-98**

Log In To the System

Access NVR 3.0 via Internet Explorer



From Server Computer Using Local Client

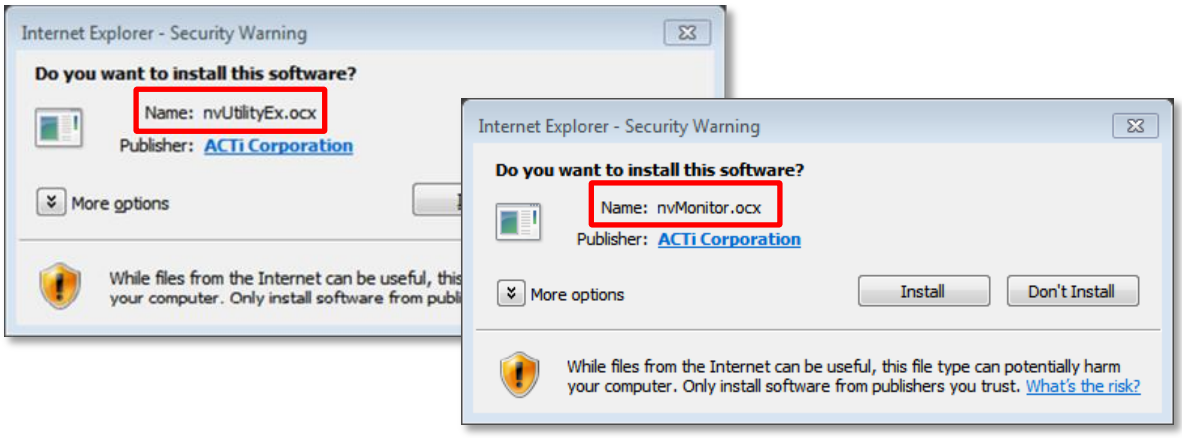
Open Internet Expolrer. If your computer is where NVR 3.0 is installed, type **http://localhost/** or the computer's ip address in URL box.

From Remote Client Computer

A remote client refers to any client using a computer over WAN or LAN other than server computer. If you are connecting to a NVR 3.0 server as a remote client, please type server computer's ip (e.g. local network ip: **http://172.16.26.217** within LAN ;public IP **http://220.228.146.21** or domain name **http://nvr.acti.com** over WAN) in URL box. The port number is **80**, and you can omit it when typing the address.

Accept ActiveX Controls Installation Requests

NVR3.0 interface requires the add-on ActiveX Control components, please make sure browser's security settings allow ActiveX controls to be downloaded and installed. When your browser asks if you allow ACTi Corporation's add-on components to run, please allow the

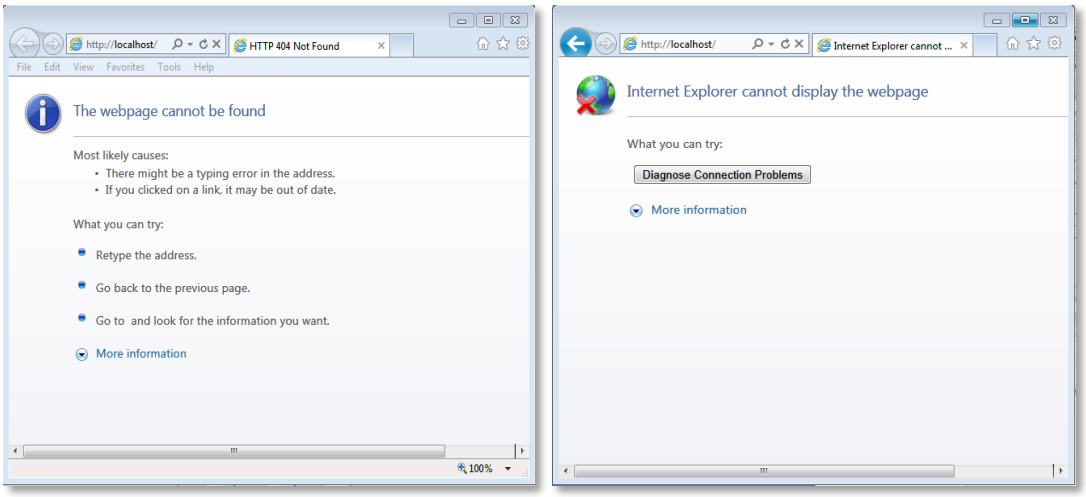

Internet Explorer - Security Warning
Do you want to install this software?
Name: nvUtilityEx.ocx
Publisher: ACTi Corporation
More options
While files from the Internet can be useful, this
your computer. Only install software from publi
Internet Explorer - Security Warning
Do you want to install this software?
Name: nvMonitor.ocx
Publisher: ACTi Corporation
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

Login Failure Troubleshooting

Once you confront with problems accessing NVR server, refer to the possible conditions below and follow the instruction to solve your issues.

Condition 1: Why can't I access NVR server via browser?

After typing in the correct NVR server IP, if you cannot access NVR Login page, you may get the below browser screens:


http://localhost/
HTTP 404 Not Found
File Edit View Favorites Tools Help
The webpage cannot be found
Most likely causes:
There might be a typing error in the address.
If you clicked on a link, it may be out of date.
What you can try:
Retype the address.
Go back to the previous page.
Go to and look for the information you want.
More information
100%
http://localhost/
Internet Explorer cannot ...
Internet Explorer cannot display the webpage
What you can try:
Diagnose Connection Problems
More information

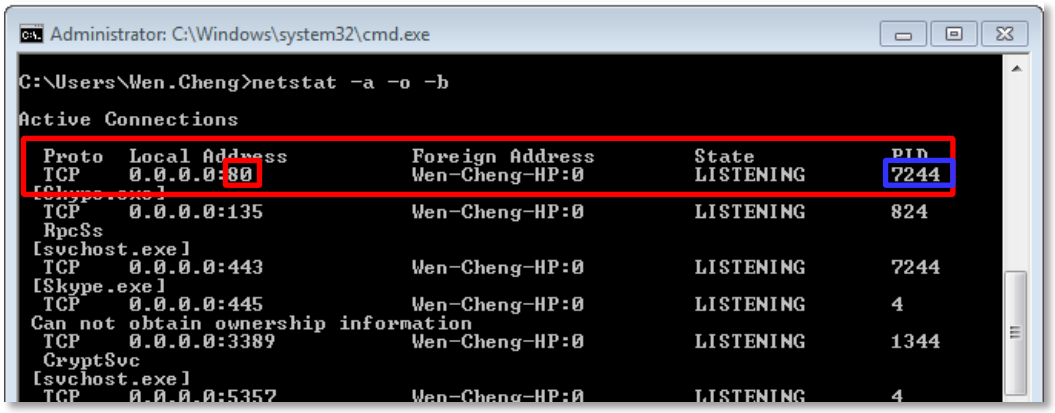
Cause 1: Server is not ready

Solution: It may happen when you just started the server computer or the server installation has just finished, please wait a few seconds and connect again.

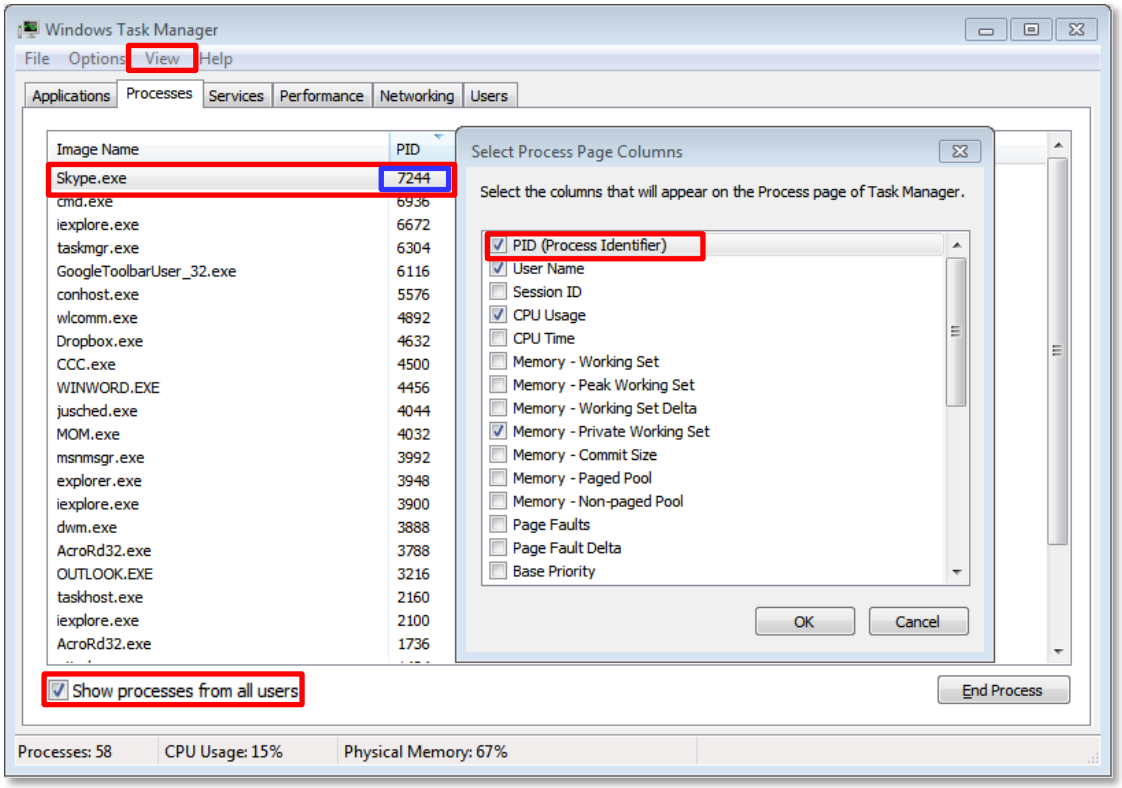
Cause 2: Server is not able to respond to your request through current path because port 80 has been seized by another service running on server computer. This may happen when that service is executed right before NVR server starts its services.

Solution: Please check if there is another service using port 80 right now, and change the setting in that program to release port 80 for NVR 3.0 server. Below are the steps to find the service:

1. Please click on "**Windows Start**" (Windows-Logo) , then enter "**cmd.exe**" in the run box and execute it.
2. Input the command "**netstat -a -o -b**". You will be provided with the ports in use and the services using them. Find the **Local Address** that has taken port **80**, and the **PID** number.

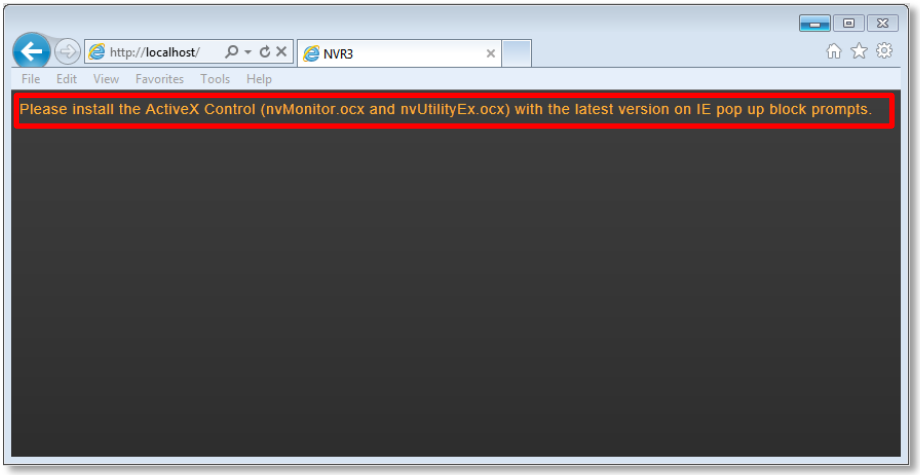


3. Press down "**ctrl**"+ "**alt**" + "**Delete**" keys to bring up **Windows Task Manager**. Select "**View"**, and then "**Select columns**", and enable the **"PID (Process Identifier)**" to appear on search results. Please also make sure "**Show process from all users**" is enabled.
4. On **Task Manager Process** tab, locate the PID number of the service using port 80. The service name is shown under "**Image Name**" column.



Condition 2: Why can't I install Active X controls after logging in?

ActiveX Control components are essential for NVR server to present user interface. The message below will show if these controls were not installed.


http://localhost/
NVR3
File Edit View Favorites Tools Help
Please install the ActiveX Control (nvMonitor.ocx and nvUtilityEx.ocx) with the latest version on IE pop up block prompts.

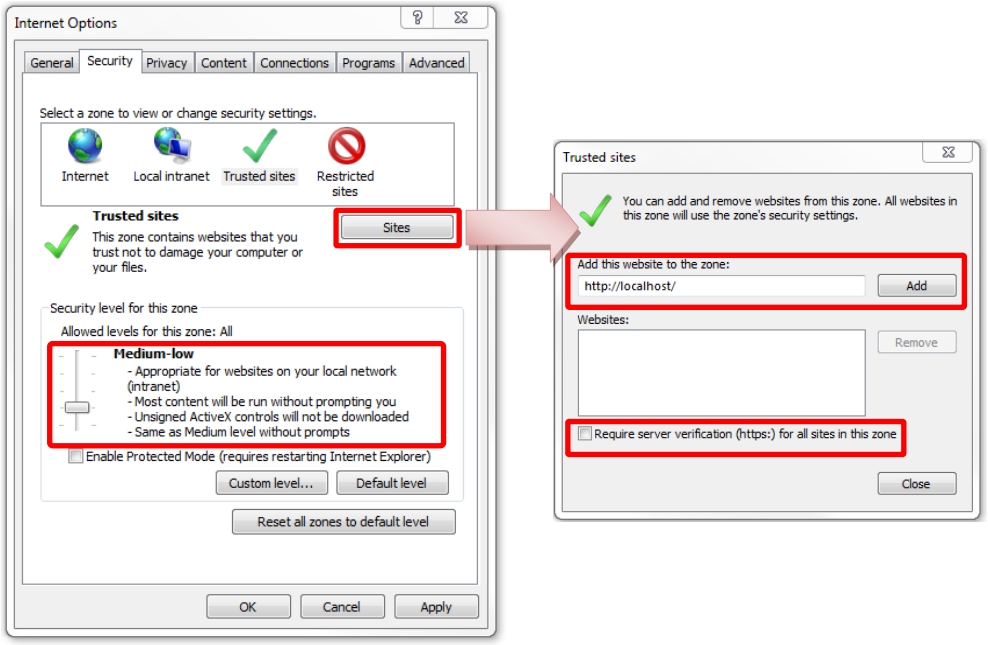
Cause 1: Your **Internet Explorer** browser version does not support NVR 3.0.

Solution: Make sure you are using IE8 or IE9 **32-bit** version.

Cause 2: Your browser restricts the installation of add-on components.

Solution: To ensure NVR server is always accessible from your web client regardless of any change in browser's Internet security setting, you may add NVR server site to Internet Explorer's **Trusted sites**. These sites are which you consider safe and wish to visit with low security restrictions while maintaining higher security for the rest of the Internet.

1. Open IE browser, go to **Tools** →**Internet Options**,
2. On **Security** tab, select "**Trusted sites**", set the security level to "**Medium-low**", and then click "**Sites**".
3. Add http://localhost or server IP to the zone, and **clear** the box "**Require server verification (https:) for all sites in this zone**".
4. Back on **Security** tab, click "**Apply**" to apply the changes. This will allow ActiveX and scripting to be available for the chosen sites but not for the Internet as a whole.


Internet Options
General Security Privacy Content Connections Programs Advanced
Select a zone to view or change security settings.
Internet
Local intranet
Trusted sites
Restricted sites
Trusted sites
This zone contains websites that you trust not to damage your computer or your files.
Sites
Security level for this zone
Allowed levels for this zone: All
Medium-low
- Appropriate for websites on your local network (intranet)
- Most content will be run without prompting you
- Unsigned ActiveX controls will not be downloaded
- Same as Medium level without prompts
Enable Protected Mode (requires restarting Internet Explorer)
Custom level...
Default level
Reset all zones to default level
OK
Cancel
Apply
Trusted sites
You can add and remove websites from this zone. All websites in this zone will use the zone's security settings.
Add this website to the zone:
http://localhost/
Add
Websites:
Remove
Require server verification (https:) for all sites in this zone
Close

Login

Enter Account & Password

●**Account** (non case-sensitive)**:** **Admin** (default)

●**Password** (case-sensitive)**:** **123456** (default)

Change UI language

To change UI language, select the desired language from "**Language**" dropdown list.

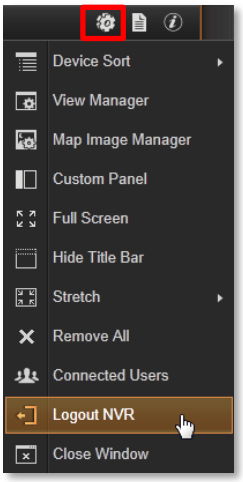
Remember Login Information

To have the server remember your Login name, password and language setting for future, check "**Remember login info**". Click "**Don't remember**" will clear your input text and reset to default.

Set Auto Login

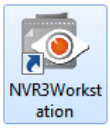
Check "**Remember login info**" then "**Auto Login**" to skip the Login page and go directly to the main page every time you log in from this PC in the future. **If your computer may be accessed by someone without proper authority, please DO NOT use either of these functions**.

To cancel auto-login, on title bar, click → "**Logout NVR**" to return to login page, and this function is cancelled.

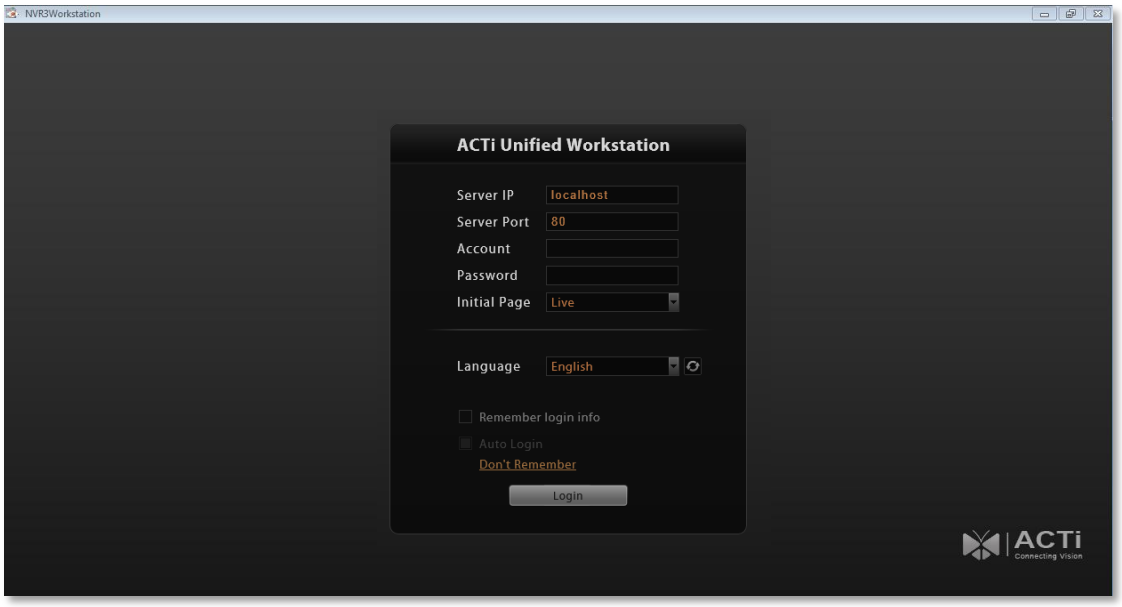


Access NVR 3.0 Server via NVR3 Workstation

NVR3 Workstation includes a set of programs that provide interface between users and the NVR server. It may be installed on the same PC as the NVR server, or they may be installed separately and connect to NVR Server via network.



Double-click the shortcut icon on your desktop to execute this workstation application.



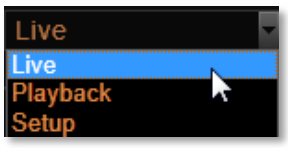
Login

Fill in the following fields then click "**Login**" to log in to the system. The login process of Workstation is very much the same as that of Web browser except for the following:

Server IP & Server Port

- In **Server IP** field, key in **localhost** or **127.0.0.1** if NVR3 Workstation is on the same computer with NVR server. If you are connecting from another computer, please input the ip address of server computer, for example: **220.228.146.22**.
- In **Server Port** field, key in the default port number **80.**

Choose the Initial Screen



NVR 3.0 user interface consists of three main module screens: **Live View**, **Playback** and **Setup**, you may choose one where you would like to enter after logging in. Default is **Live View** screen.

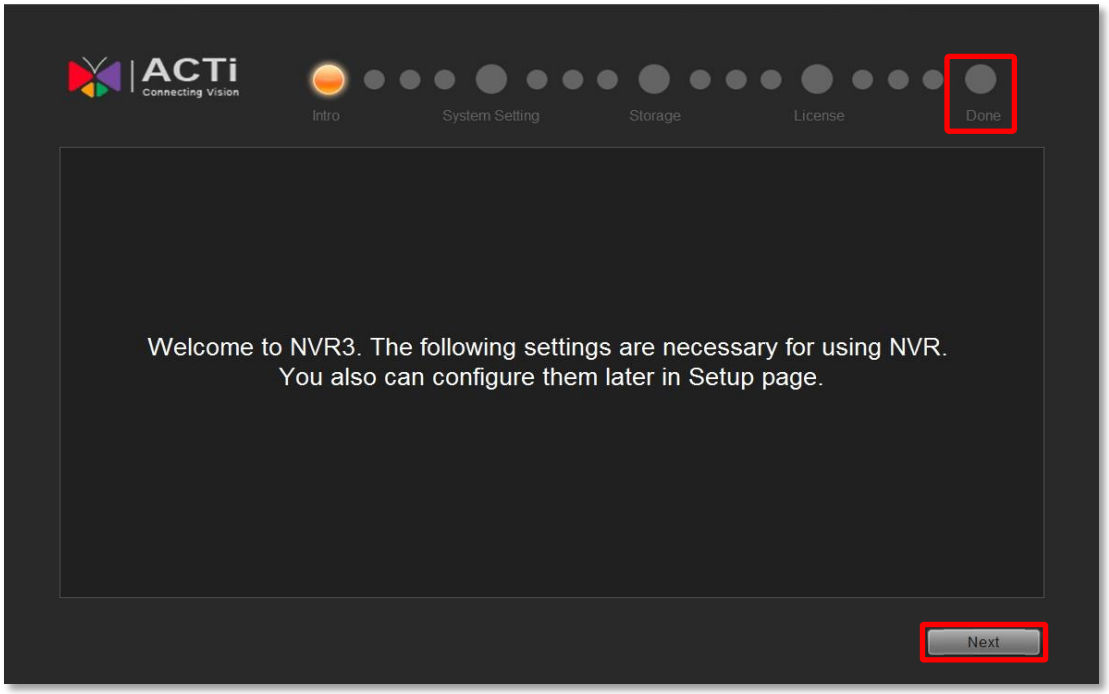
Set up the System

This chapter will guide you through everything you need to know in System Setup procedure from first time connection with ACTi NVR 3.0 server to general system configuration.

Setup wizard

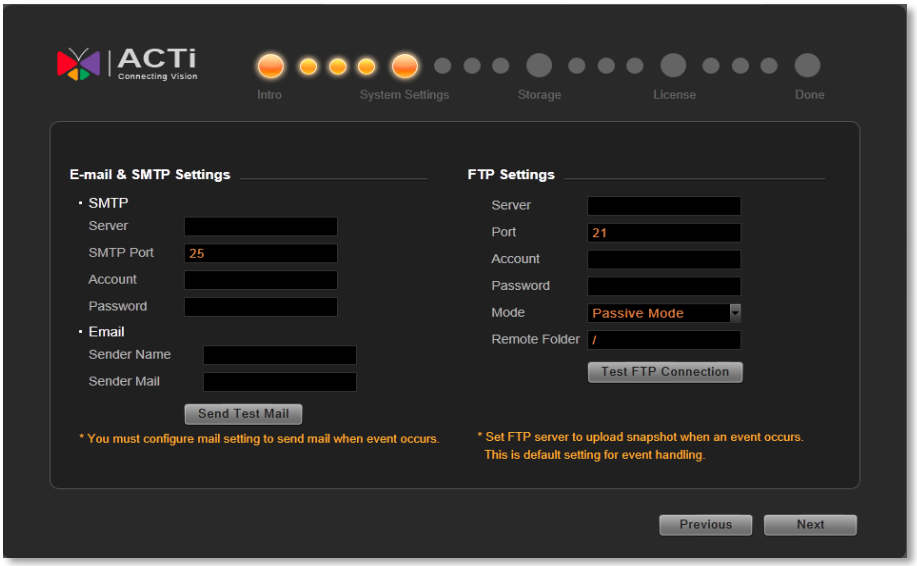
Once you connect to ACTi NVR 3.0 for the first time, **Setup Wizard** will guide you through the initial setup process. You may click "**Previous**" or "**Next**" button located on the lower right at any time. This will skip the current step so that you may come back to it later. All the settings in the **Setup Wizard** are available in the **Setup** page.

To skip this wizard, click the bubble "**Done**" on top right corner.



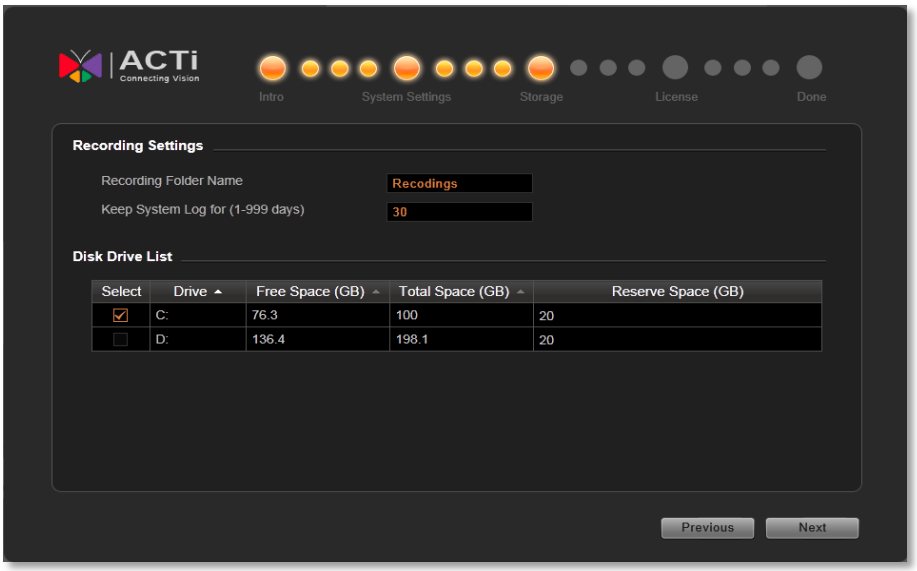
System Settings

You can adjust the Email & SMTP settings, FTP settings for event rules now or later. For more details about the settings, please refer to How to Setup SMTP Settings for Event Rules on page 69 and How to Setup FTP Settings for Event Rules on page 70.

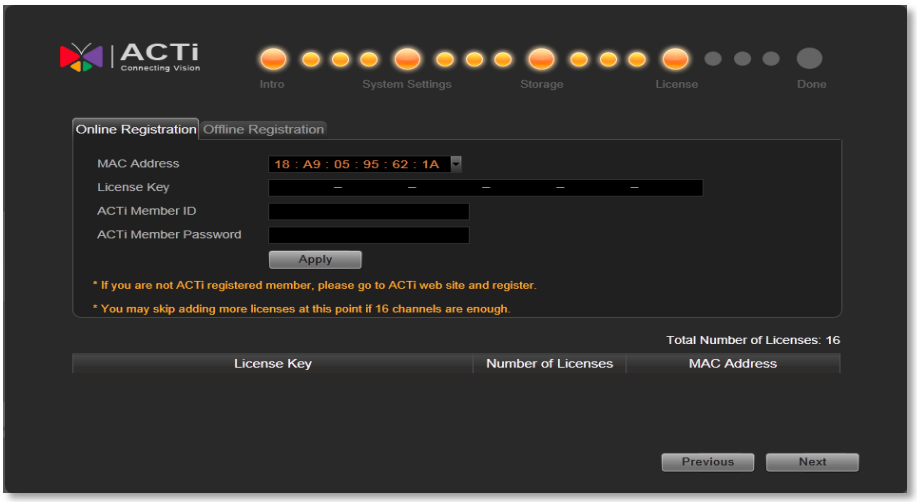


Storage

On NVR server, you may choose which disk drives to store the recording files, and decide how much memory space is left for all computer applications to run. You must configure the **Drive** and **Reserve Space** for recording. **Reserve Space** is the space on the drive that will not be used to save recording files, the deletion of earliest recording files will be performed if available space has decreased to reach below **Reserve Space** configuration; you may choose one or multiple disk drives in **Disk Drive List** to save the recordings. If you skip this step, **Drive C** will be the default drive. For more details about the settings, please refer to Storage Management on page 75.



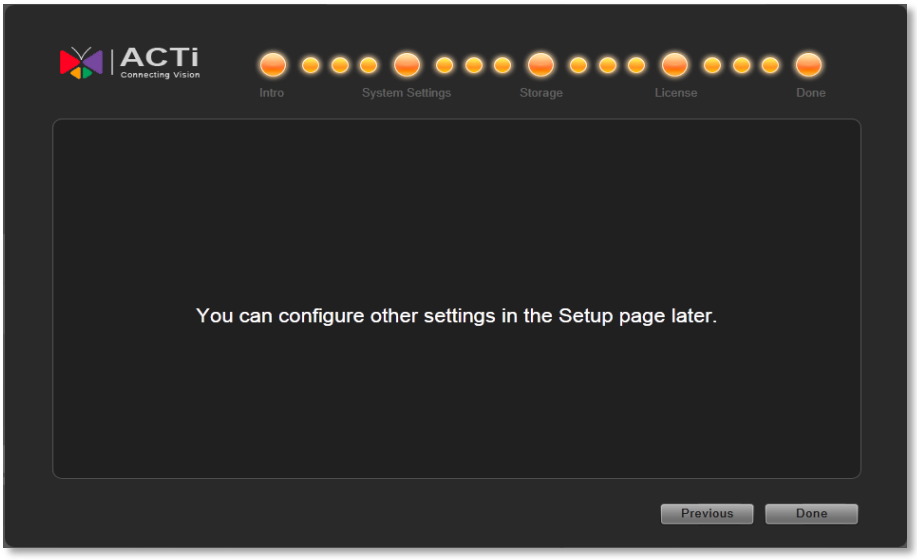
Licensing



This is the license management section. On lower right part of screen shows number of channels allowed under your current license. Each new device has a license for **16** channels which is already activated. You can click "**Next**" to next setting if you do not want to add new license for now. For more details about the settings, please refer to License and Activation on page 22.

The end of Setup Wizard

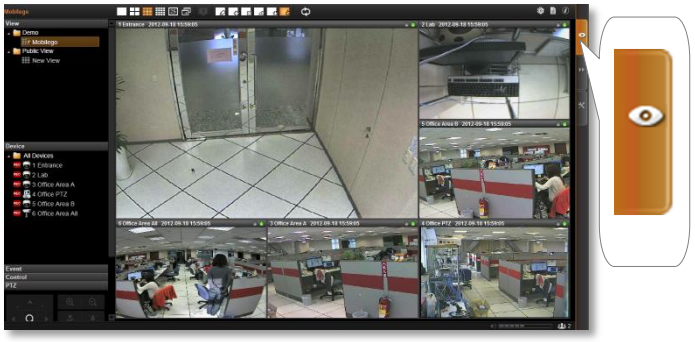
Click "**Done**" to complete **Setup Wizard**, the previous configuration steps you have gone through are available in **Setup** page.



NVR Main Screen

You will enter the live view screen after **Setup Wizard**. On the right are link buttons to three NVR major functions: (1) **Live view**, (2) **Playback** and (3) **Setup**. You can click the orange button to enter the function page.

Live View



In this module, you can see live view from cameras, perform PTZ operations with mouse or Joystick, view system log, receive alerts on the event panel, setup view layouts, perform manual recording or take a snapshot.

Playback

You may find and playback existing recordings in this module. Up to 100 channels can be played synchronously. Snapshots or video segments can be taken from playback files. Recorded files can also be exported to AVI format here.

Setup

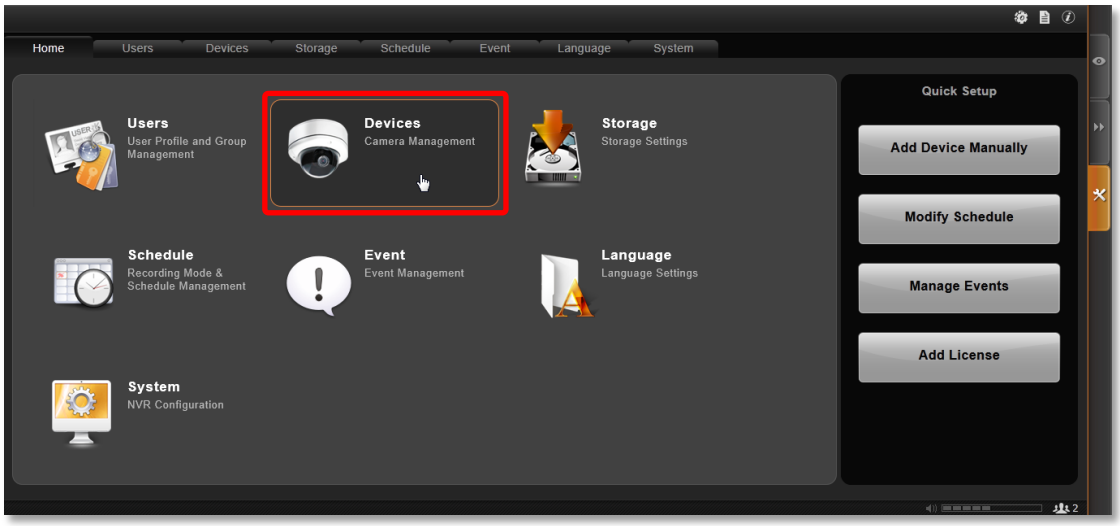
This module includes user setup, device setup, event setup, schedule setup and system-wide settings.

Add Devices

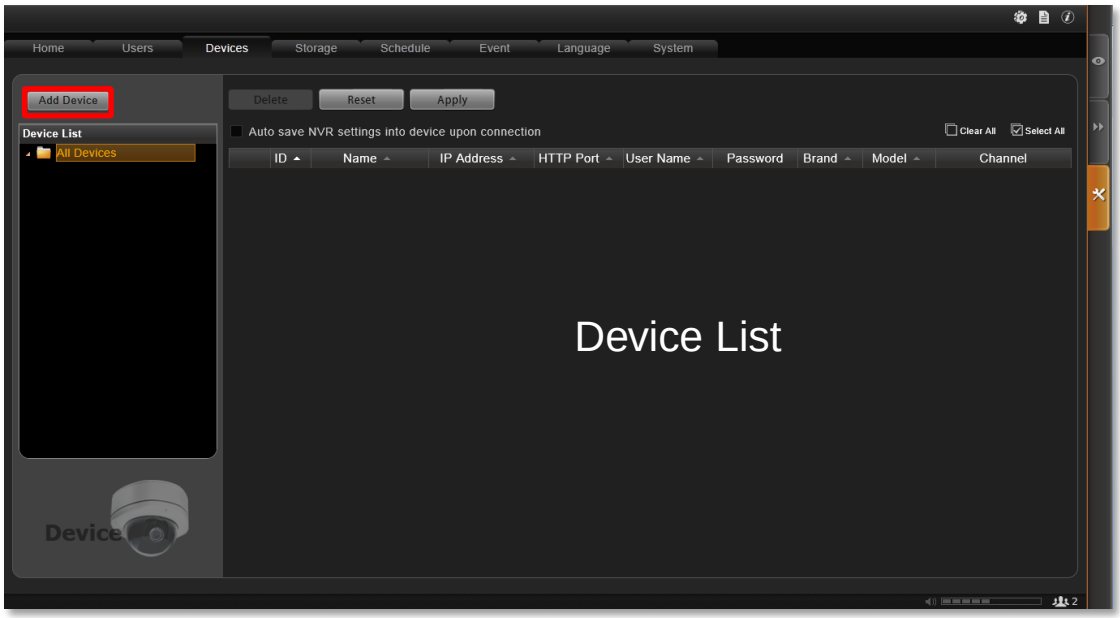
Cameras or video encoders are the fundamental building blocks of surveillance systems. To manage cameras from NVR3, you have to add camera devices into NVR3 system first.
In this section, we will guide you through how to add or delete devices on NVR system.

To start adding new devices, please follow steps as below:

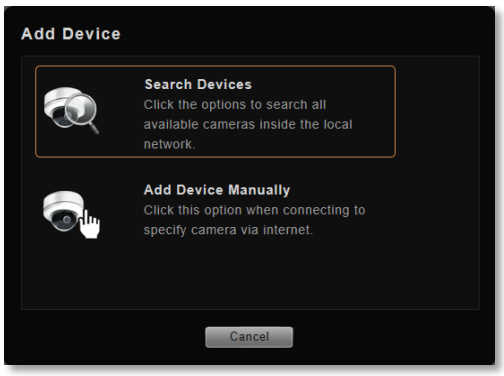
1. On **Setup** page→**Home** screen, click "**Device**".



2. On **Devices** page, the **Device List** is currently empty, and you need to add some video sources to it. Now click "**Add Device**".

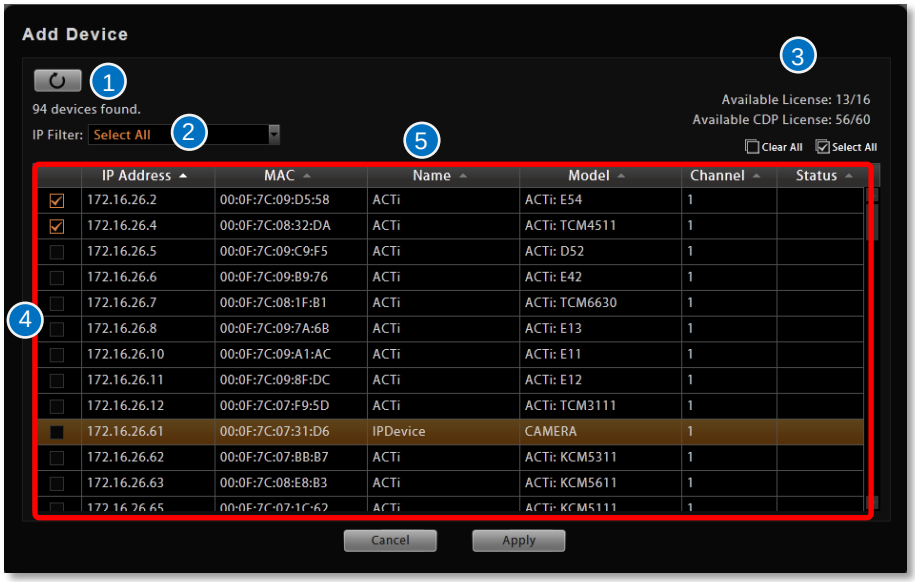


3. There are two ways to add devices into the system, **Search Devices** and **Add Device Manually**. Use **Search Devices** to auto search your cameras located in the same subnet with your NVR server. If your cameras / video encoders are located outside of local subnet or over WAN, please do it by **Add Device Manually**. You need to know the IP address of the device to add it manually.


Add Device
Search Devices
Click the options to search all available cameras inside the local network.
Add Device Manually
Click this option when connecting to specify camera via internet.
Cancel

Search Devices within Local Area Network

1. Select "**Search Devices**". Once the search is completed, a list of available devices will be shown. You click on the title header to sort by that column. Click the header again to sort in the reverse order.

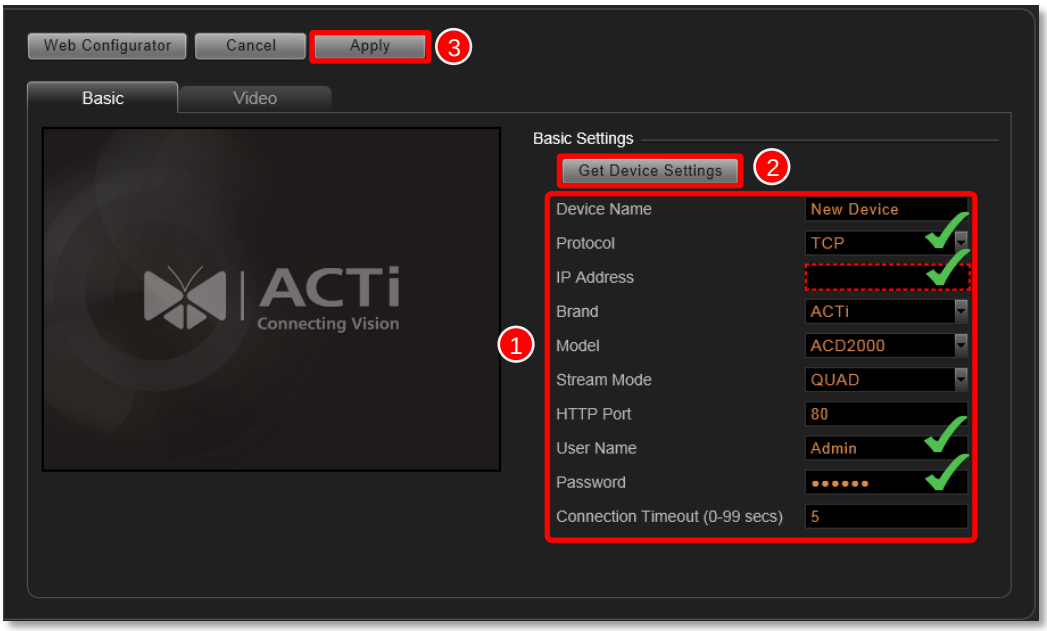


1. Refresh
2. IP filter (for multiple networks)
3. Available / Licensed channel
4. Search result
5. Column title

2. Select the row of the camera you wish to add to the system and repeat this step until you have checked all the devices you need.
3. Click "**Apply**" to add selected devices into NVR system.

Add Devices on WAN or Other Local Area Networks

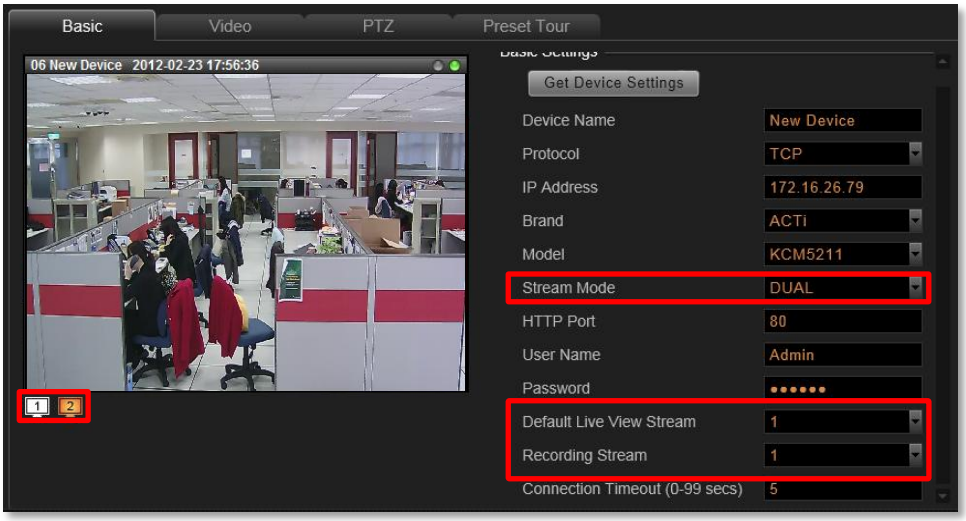
1. After selecting **"Add Device Manually"**, camera setting page will appear as below. The most important settings are (1) Protocol, (2) Camera IP, (3) HTTP Port, and (4) User Name & Password. Please fill in these fields required for NVR to communicate with the device.



Important Notice

If any of the said fields is incorrect, NVR will not be able to connect the device. When you have any device connection problem, please check these settings. However, at this point, you may skip filling in the Device Name, Brand, Model, and Stream Mode configuration.

2. Click "**Get Device Settings**" to have NVR contact the device and get the live view. Once connected to the device, NVR will get all the device properties and auto-fill the fields like Brand and Model. If the device supports dual stream, Stream Mode selection field will reveal, you may select different streaming mode and configure relative options. You may click "**Cancel**" button on the top to abort setting this device or "**Apply**" to save it.



3. To directly access the device configurator webpage, simply click "**Web Configurator**" on top left to open it. Certain detailed settings are only through the web configurator and not through NVR.

Basic Settings Attributes

Field Name	Description
Device Name	Enter the name of the camera, which will be shown in the Device list on the left in Live View. This name should be descriptive so that you know where the camera is located.
Protocol	Select a streaming protocol to connect the camera with. You may choose between TCP, RTP or HTTP.
IP address	Enter the camera's IP address or host name.
Brand	Select the manufacturer of device.
Model	Select the device type of the IP cameras / video servers. In most cases, this is automatically filled in when you perform **Get Device Setting**, and you do not need to worry about it.
Stream Mode*1	Select one of the streaming modes this device supports.
Channel No. *2	The channel ID you set for a multi-streaming device.
HTTP Port	Enter the HTTP port for IP cameras/ video servers. Most cameras use the default port number of 80.
User Name	Enter the user name to log in the camera.
password	Enter the password to log in the camera.
Default Live View Stream*3	Choose the streaming id for Live View. Default is **stream 1**.
Recording Stream*3	Choose the streaming id for Recording. Default is **stream 1**.
Connection Timeout(0~99 secs)	Enter the amount of time without response for NVR to consider the device to be disconnected (in seconds). We recommend you to set different values for different types of connection. The default setting is 5 seconds. For devices located over the WAN, you may wish to increase this value to allow for occasional Internet lags.

*1 Available when connected to a multi-streaming device.

*2 Available when connected to a multi-streaming device in the mode of concurrently outputting streams for multiple live view channels.

*3 Available when connected to a multi-streaming device in Dual Stream mode.

Device Status

To validate if you have successfully added a device to NVR system, simply check the **Device List** on the left of **Setup →Devices** tab to see if the device name appears in the tree. Point your mouse cursor over the device icon will bring up an information box containing the device's **IP Address**, **HTTP Port**, **Protocol** and device type.

Status Icon Description

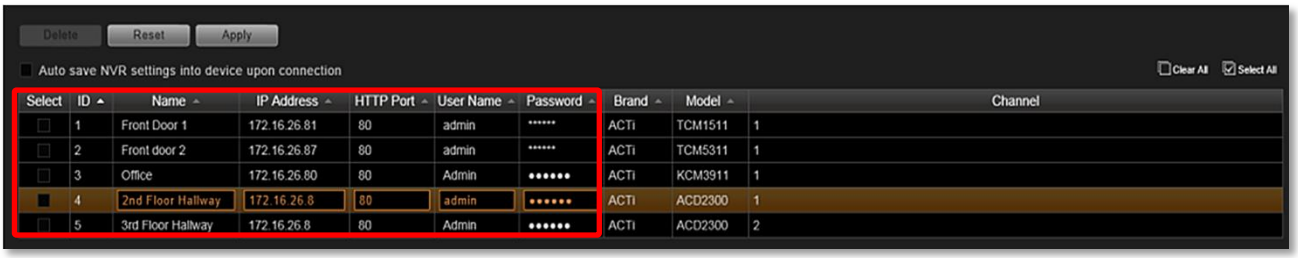
Icon	Status Description
	NVR cannot retrieve video streaming. This may be that a video server is not connected with cameras, or that the streaming is blocked by the firewall between the device and NVR server. Please (1) ensure the device side is well connected and can output video normally. (2) check the firewall and port forwarding settings.
	This device's settings have been modified but not saved yet. If you leave these modifications unsaved, they will not take effect by next time the server starts. Please always remember to save upon every change.
	NVR cannot build up connection with this device. Please check the device connection settings (including IP Address, Port number, Account Name and Password)
	This device is currently connected, video is being transmitted and no recording is proceeding.
	This device is currently connected, and video is being recorded manually or according to the schedule.

Manage Multiple Devices

After adding several devices to the system, you may get an overview of all devices on **Setup** page→**Device** tab; this is where you may use certain fast and convenient approaches to manage a number of devices. In this section, we will guide you through how to quickly add or delete multiple devices.

Modify Basic Connection Settings

Go to **Setup** page → **Devices** tab, and click **All Devices** in **Device List** to get the devices overview in right column. Each basic connection setting field including Name, IP Address, HTTP Port, User Name and Password, is editable. Simply click in the field to modify it directly.



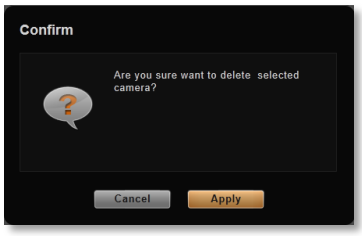
Every time you modify a property without saving it, an icon will appear next to the device in **Device List**. You may click "**Reset**" to retrieve the settings you saved last time once you want to abort current modificaiton. After changing any field, please remember to click "**Apply**" before you leave this page.

Tip

NVR will sync with devices upon connecting to them. To make sure the settings on NVR side are prior to and always overwrite those on device sides, please check "**Auto save NVR settings into devices upon connection**".

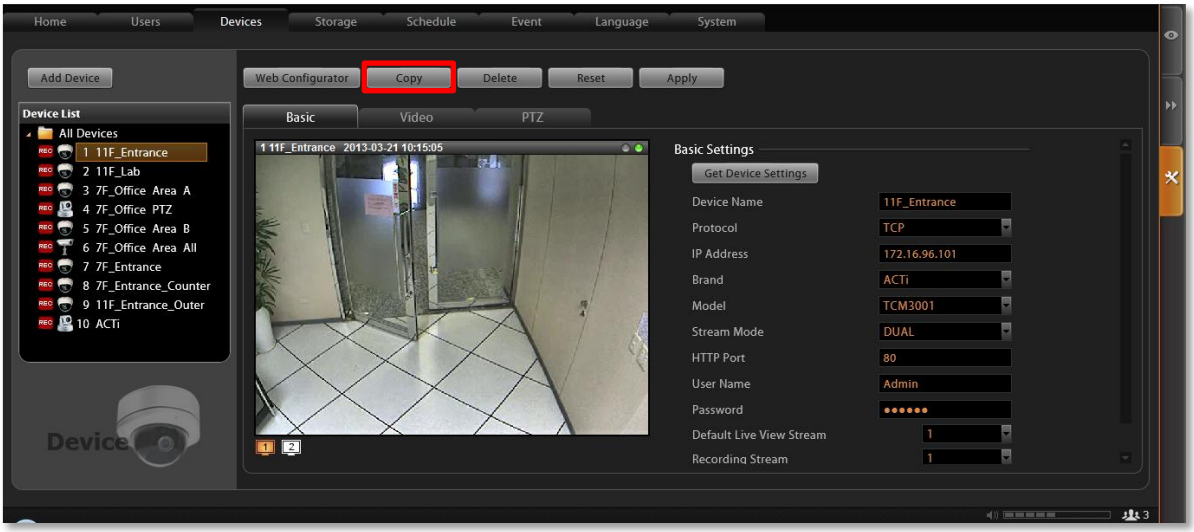
Delete Devices

You may delete a single, multiple or all devices on **All Devices List**. The logs and video files of the devices will be kept until being deleted by server storage deletion rule. Select the device(s) you wish to delete, click "**Delete**" button and confirm the deletion. If you want to delete all the existing devices, simply click Select All on upper right to select them all at once. To validate if you have successfully deleted a device on NVR system, simply check the **Device List** on the left of **Setup** page → **Devices** tab to see if the device name is removed from the tree.



Copy Settings across Devices or to Add New Ones

When setting a large number of devices, many settings will resemble other ones, and it is sometimes tiresome to repeat every setting again and again. You can use the **Copy** function to save the hassle of needless repetition.



1. On **All Device List**, select the source device whose settings are to be copy from. You can select only one device to be the source.
2. Click "**Copy**" to bring up the copy setting window.
3. On the window, below the source device name are the settings you may choose to copy, including **Basic settings**, **PTZ Settings** and **Video Settings**.
4. Click "**Apply**", the settings will be written to target devices.

5. To add a new device with the same settings, choose "**Add New Device**" in **Target Device** area, and then click "**Apply**" to go to a new device page. Each field on this page has already been filled with the source device's properties. You may continue to modify the **Device Name**, **IP Address**, get the live view by clicking "**Get Device Settings**", and then click "**Apply**" to add this device to **Device List**.
6. There are a few differences of the copied items between two target device types:

Settings Copied to Target Devices

Target Type / Settings	New Device	Existing Device
Basic	All	All except **Device Name**, **IP Address**, **HTTP Port**, **RTSP Port**, **User Name** and **Password**
Video	All except **Motion Settings**, **Video Adjustment**	
PTZ	All except **PTZ Preset Points** and **Commands**	

Note

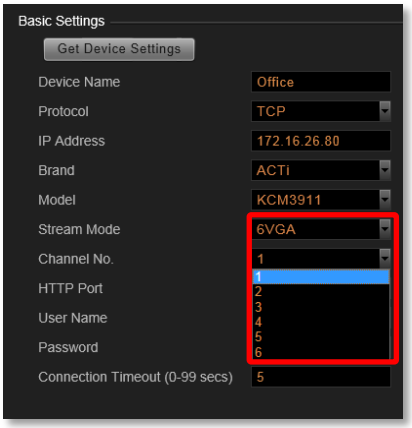
1. You can only choose either "**Add New Device**" or existing devices as target.
2. To add new devices by copying from an existing one, the user's group should be permitted with this right. To check the access rights, please go to **Setup** page→**Users** page→**User Groups**, select the user group, and enable the "**Device Setup**" -"**Add New Device**" under **NVR Permissions.**

Add Video Streams from a Multi-channel Device

There are devices that output more than one video streams to NVR. For example, a video encoder converts a number of analog video signals into the same amount of IP video streams; certain high megapixel cameras such as ACTi KCM-5111, supports outputting multiple VGA streams cropped from a single high-resolution video source. These multiple streams come from a single device are managed as different cameras by NVR server.

To add these streams as multiple channels for you to view and record, please:

1. Select the desired stream mode in "**Stream Mode**" field on **Setup** page →**Devices** tab→**Basic** tab.
2. The "**Channel No.**" column will display for you to input the stream ID (the same with your setting in device's web configurator).
3. After configuration, click "**Apply**".
4. Go to **All Devices** page, duplicate this device to a new channel, repeat this step until all the channels you need are added.
5. Individually modify the **Channel No** value of the channels.



Tip

Saving CPU loading with Your Dual Streaming devices

The device supporting dual-streaming function can output two video streams of different value. You may make the live view stream smaller in size with lesser frame rate to save decoding CPU power and bandwidth. Meanwhile the recording stream can be larger and have more FPS so that you have clear images when you need to retrieve evidence. For settings in both streams of devices with dual stream functionality, please refer to section Configure Video Format on page 44

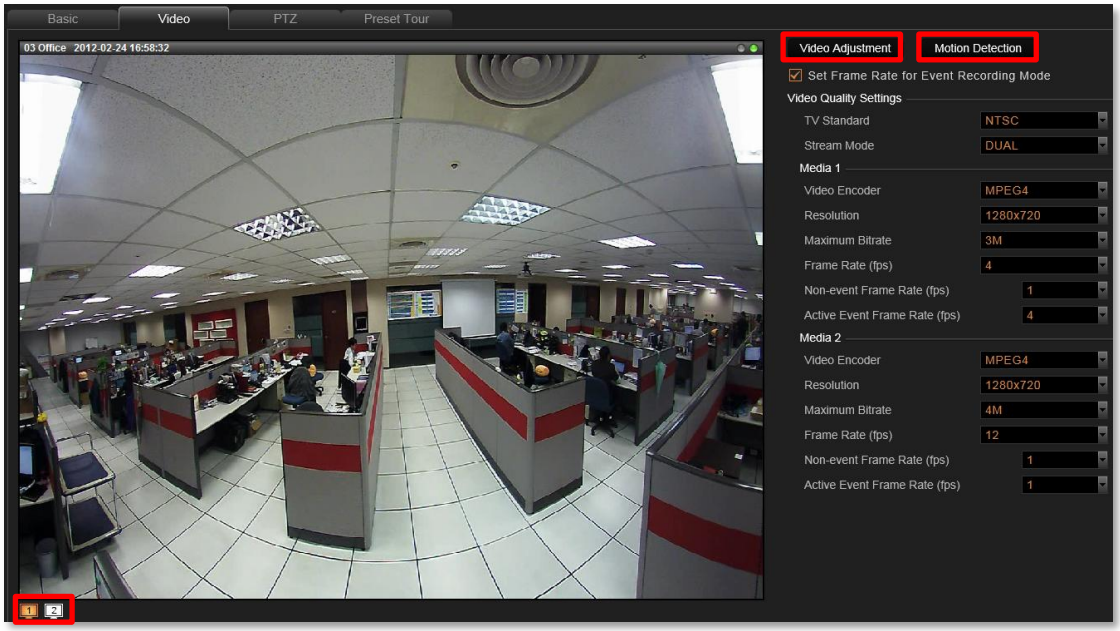
Configure Device Settings

After adding a device to NVR, you may continue to configure its video, motion detection, PTZ or preset tour settings on **Setup** page→**Devices** tab. In this section, we will guide you through how to configure these settings and their corresponding functions.

Switch between Stream and stream 2 Live View

Configure Video Format

Go to **Setup** page →**Device** tab, select a device from **Device List**, and then go to **Video** tab to configure the video format of the stream output from this device. If the device is currently in Dual Stream mode, you may switch the stream in live view window by click on the switch below and configure individual settings for Media 1 and Media 2.



Video Settings Attributes

Field Name	Description
TV Standard	Default is **NTSC**
Stream Mode[*1]	Select one of the streaming modes this device supports.
Video encoder	Select one of the codec this device supports
Resolution	Select one of the resolutions this device supports
Video Quality[*2]	Select your desired video quality of the image
Frame Rate(fps)	Select the (Frames Per Second) this device supports.
Maximum Bitrate	This puts a hard cap on the maximum bit rate allowed in any given second of video streaming. Assigning a limited bit rate may result in a few dropped frames rate when the stream data overflows the allowed bit rate.

Bitrate[*3]	This is the target bitrate that the camera will attempt to provide when you have selected "**Unlimited**" for **Maximum Bitrate**. The actual value will fluctuate slightly based on scene changes.

[*1] Available when connected to a multi-streaming device.
[*2] Available when "Video Encoder" is selected as MJPEG.
[*3] Available when "Maximum Bitrate" is selected as "Unlimited".

Save Storage by Setting Frame Rate for Event Recording Mode

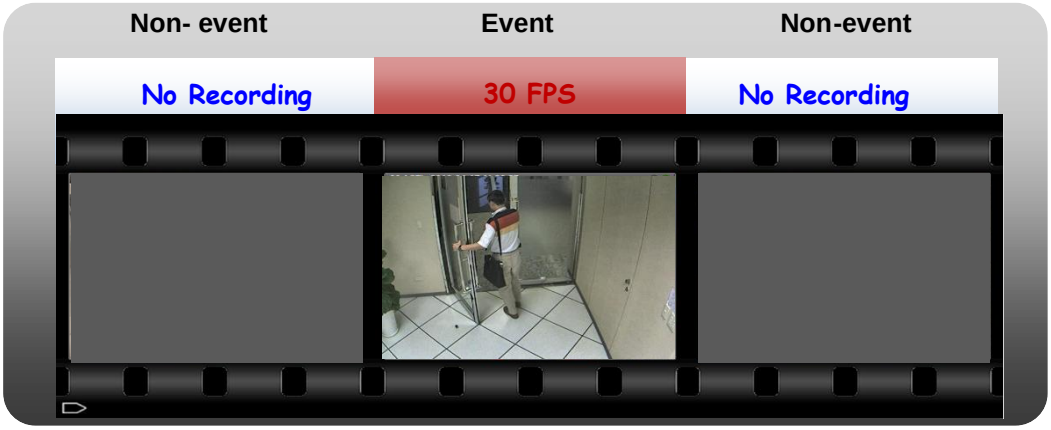
Video surveillance system is aimed to preserve as much evidence as possible, and you may want to have a view be recorded 24/7 to capture every important moment; however, the general recording methods provided by most network recording systems- event and schedule recording, will either consume too much storage or have risk in missing important scenes. The "**Set Frame Rate for Event Recording Mode**" function record everything at economical storage usage by automatically adjusting video frame rate during event recording period.

Schedule recording

Continuous recording promises no loss of video evidence; **however, large data storage is required** because this video is always recorded at the high frame rate you set for device.

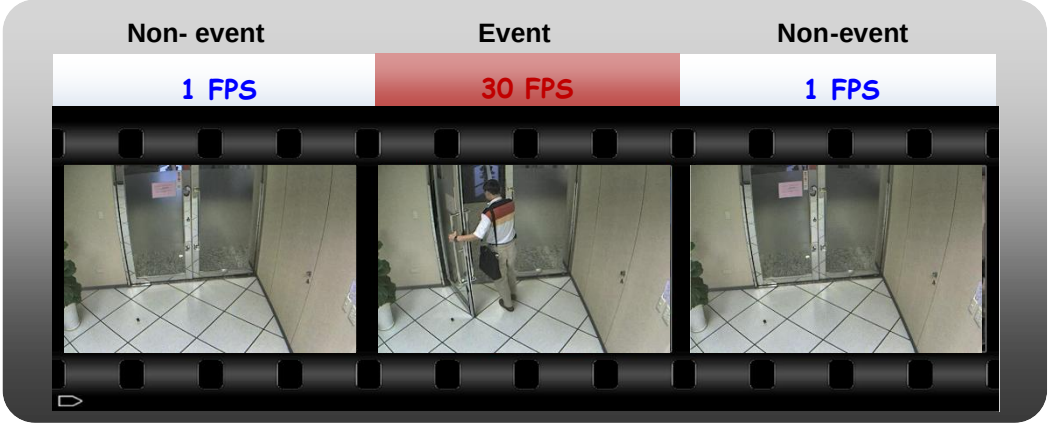
Event recording

This mode is storage-efficient because recording would stop during the non-event moments; while **certain vital video evidences may be missed if the triggering device fails to take effect.**



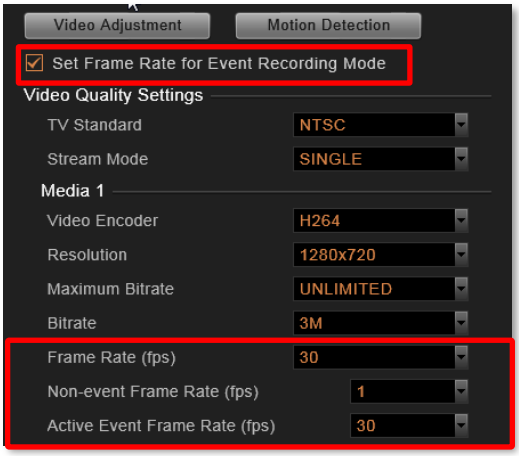
Event Recording with Frame Rate Adjustment:

Keeps recording all the way without losing any single moment; lower frame rate can be set for non-event recording, which consumes only a little storage.



How to Make Use of Event recording with Frame Rate Adjustment

To make use of **Event recording with Frame Rate Adjustment function**, you may configure the **Frame Rate** settings on **Setup** page →**Device** tab→**Video** tab. The **Frame Rate (fps)** you set will always be applied to live view and schedule recording. Once **Set Frame Rate for Event Recording Mode** is checked, you may configure advanced settings for event recording. If the device is in **Dual** stream mode, you will only need to configure these settings of the **Recording Stream**.



Scenario A:

Suppose you wish all the videos are recorded at very high frame rate. With sufficient storage, you may not need this function. Set the video **Frame Rate** that will apply to all the recordings. In this way, NVR 3.0 will not record non-event during event recording period.

Frame Rate Setting Set Frame Rate for Event Recording Mode	Event Recording
Frame Rate (fps) 30	Non-Event: 0 FPS
	Event: 30 FPS

Scenario B:

Suppose you wish the system to recorded 24/7, the non-event recording to be kept at very low frame rate. Please set the event and schedule recordings at different frame rate, you will need to enable "**Set Frame Rate for Event Recording Mode**", and set the "**Non-event Frame Rate**" and "**Active Event Frame Rate**".

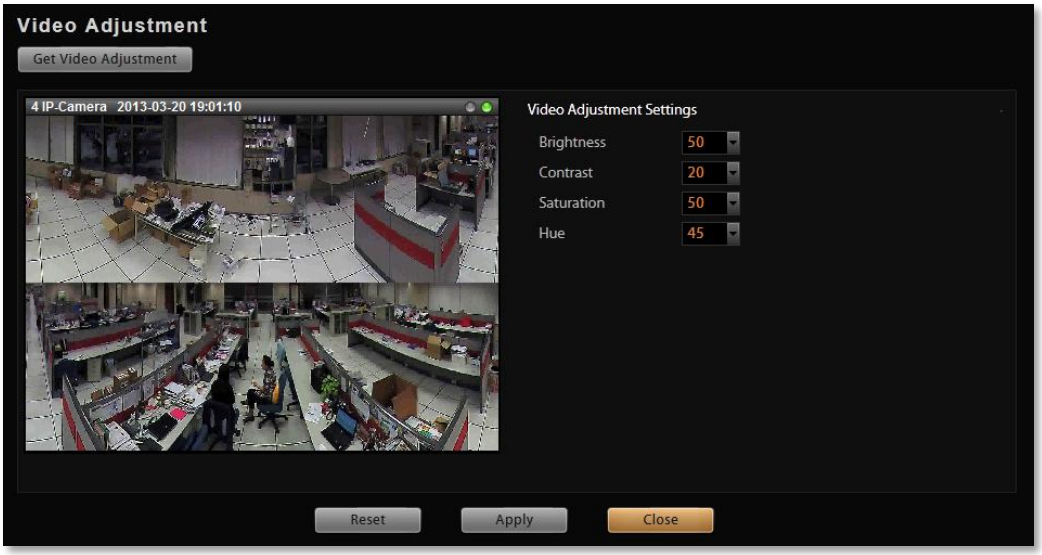
Frame Rate Setting	Event Recording
☑ Set Frame Rate for Event Recording Mode	
Frame Rate (fps): 30	Non-event:1 FPS
Non-event Frame Rate (fps): 1	
Active Event Frame Rate (fps): 30	Event: 30 FPS

Fine-tune the Image: Brightness/Contrast/Saturation/Hue

Not only details but also brightness, contrast, saturation and hue are essential factors to make images closer to real scene. For devices that support these property configurations, you may directly modify them and save to the device in NVR 3.0 system.

To start, on **Device Video** tab, click "**Video Adjustment**". Each field is only available when the device opens this property for modification. If the device is in Dual Mode, the video you get in this window will always be **Stream 1**.

1. At first, synchronize with the device to get the current settings by clicking "**Get Video Adjustment**".
2. After retrieving the settings from device, the fields available for modification (depends on models) will be enabled. Select the desired value for the field.
3. Click "**Apply**".



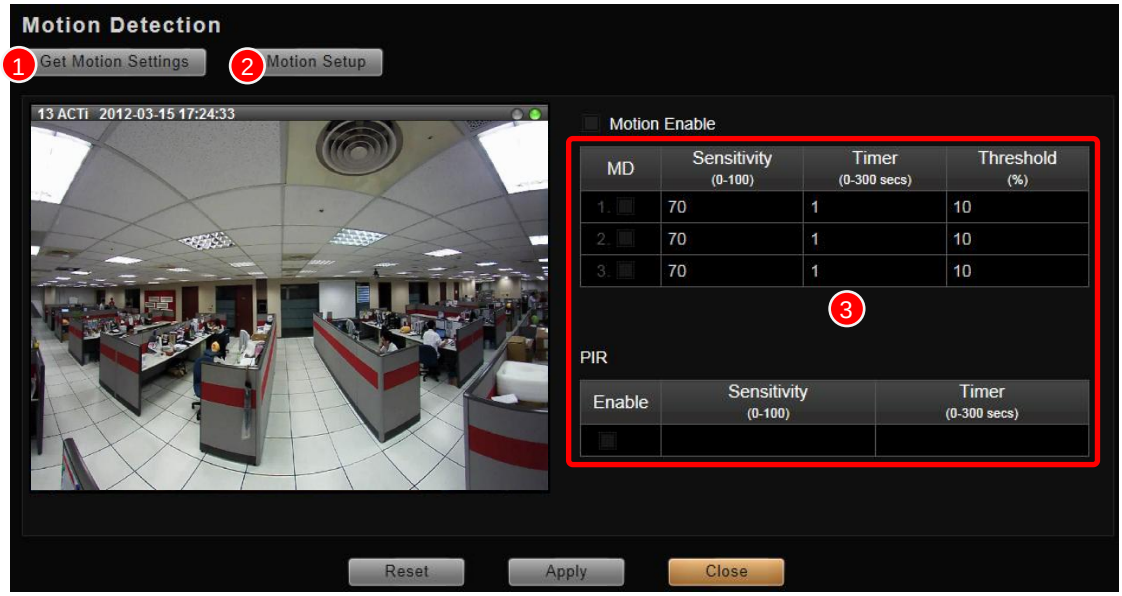
Video Adjustment Attributes

Field Name	Description
Brightness(1-100)	Defines how much portion of light and of dark appear in the image. As the value increases, the image appears brighter, and vice versa.
Contrast(1-100)	Defines the range level between light values and dark values. As the value increases, the separation between light and dark becomes more obvious.
Saturation(1-100)	Defines the level of the actual color intensity. As it increases, colors appear more pure; as it decreases, colors appear more gray-out.
Hue(1-100)	It is the term used to refer to the pure spectrum colors. Adjust this value to find the color closest to the real scene.

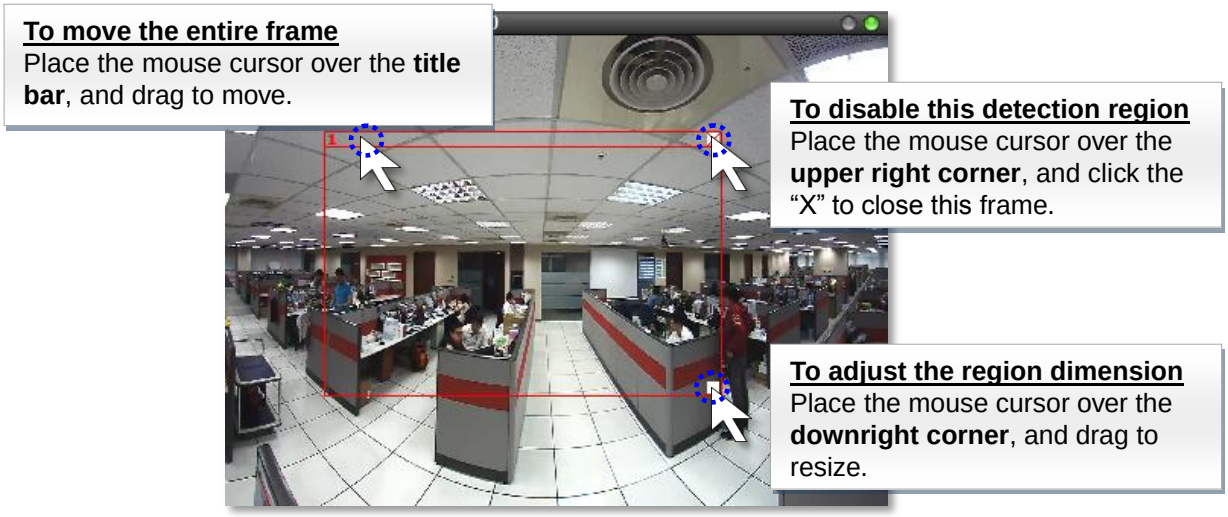
Configure Motion Settings

To make use of the motion and PIR detection functions supported by your devices, you need to configure the detection regions and settings. Once a motion is detected, NVR 3.0 can trigger events and recording, bring up instant pop-up windows and show the detected area on live view.

Before configuring motion detection settings, first make sure you can connect properly to the IP camera / video server and get device settings. On **Device** tab→**Video** tab, and click "**Motion Detection**" to start.



1. Click "**Get Motion Settings**" to retrieve the live view. For Dual Mode, the video you get in this window will always be **Stream 1**
2. Click "**Motion Setup**" to enable the property fields.
3. There are three motion regions for you to set. To enable one, check it in the **MD** box, a red frame will appear in the view. You may start setting the detection area by adjusting this red frame on the view. Simply use your mouse to move and resize the frame.


To move the entire frame
Place the mouse cursor over the title bar, and drag to move.
To disable this detection region
Place the mouse cursor over the upper right corner, and click the "X" to close this frame.
To adjust the region dimension
Place the mouse cursor over the downright corner, and drag to resize.

4. When the setting is finished, click "**Apply**" to save, then "**Close**" to exit this page. To check or modify the regions you set, please go through clicking "**Get Motion Settings**", **Motion Setup**" and then "**Motion Enable**" buttons, the saved regions are already selected on the list, select one to proceed.

Adjustment Attributes

Field Name	Description
Sensitivity(1-100)	Determines how sensitive the camera reacts to the movement. The higher the sensitivity level is, the smaller motion will trigger the alarm, but may give false alarms. Default is 70.
Timer(0-300 secs)	The interval before the next motion detection can be triggered again. Default is 1 second.
Threshold (%)	The threshold level of this motion detection region. The lower threshold level is, smaller portion of the region would be considered as motions, which is more easily to be triggered, but may give more false alarms.

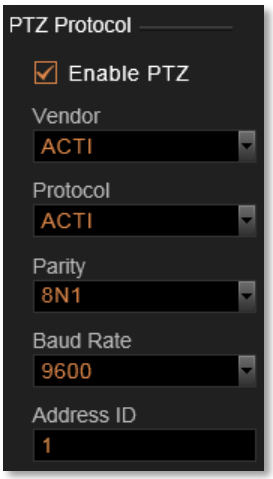
Note

1. If you have changed the motion detection settings via the web configurator, please remember to come back to NVR and press "**Get Device Settings**", then "**Apply**" to save to NVR. This is to ensure that the settings in NVR are always in sync with the device.
2. If a motion region is set, once a movement is detected in this region, in live view: (1) the red region frame will blink, and (2) a new alert entry will be generated in the event list.
3. PIR detection is available only for models with this function.

Configure PTZ Device

PTZ devices can do panning, tilting and zooming automatically or through manipulation. The PTZ-related applications are broadly supported by NVR 3.0. For example, you may control the movements of a PTZ camera with user interface panel controls or a joystick; the device can be programmed to execute a continuous tour or triggered by events to go to a preset position. Once an ACTi PTZ device is added to the system, NVR 3.0 will use the default settings of the device model and enable PTZ functions, so that you may immediately start PTZ operations.

If you have previously changed the communication parameters of PTZ devices, please make sure these parameters on NVR side and device side match.



Below is a list of functions supported ACTi solutions and the required settings. When you configure PTZ Protocol properties for ACTi Pan/Tilt/Zoom devices, please make sure the required settings are correct

ACTi Pan/Tilt/Zoom devices	Vendor	Protocol	Baud rate	Parity	Address ID
IP Zoom Camera/ IP PTZ Camera	V	V			V
IP Speed Dome / IP Camera mounted on Scanner/ Analog PTZ camera attached to Video Server	V	V	V	V	V

To start matching up the parameters, please follow the below procedures:

1. If the device is or a speed dome camera or an analog camera attached to video server, configure the parameters on physical device according to the product's installation instructions.
2. On the device's (camera or video server)web configurator, configure the parameters to match the setting on physical device, and test the PTZ operations to make sure the device is properly set to be connected
3. In NVR 3.0 server, go to **Setup** page →**Devices** tab, select the device from **Device List**, and click **PTZ** tab. In **PTZ Protocol** section, fill in the communication parameters.

Adjustment Attributes

<table>
<tr><th>Field Name</th><th>Description</th></tr>
<tr><td>Vendor</td><td>Vendor is the provider of Protocol. The selectable vendors would vary depending on different device models. Available vendor types are:
ACTI, DYNACOLOR, PELCO and SONY.</td></tr>
<tr><td>Protocol</td><td>Protocol is a set of rules to define the communication format between the device and controller. Different protocols are provided for selection according to the Vendor you choose.
Available protocols following their vendors are:
ACTI: [ACTI] / DYNACOLOR: [DYNACOLOR] / PELCO: [PELCOD] [PELCOP]
SONY: [VISCA]</td></tr>
<tr><td>Parity</td><td>Parity is the data validation mechanism for analog devices that use serial port interface to send or receive data. When choosing parity mode other than "none", the data packets will be validated for possible data losses so that failed command could be re-sent if necessary. Please refer to the parity setting of the analog device and choose exactly the same parity setting also in NVR. When setting up ACTi Zoom, PTZ or Speed Dome cameras using "ACTi" protocol, you may ignore the parity setting.
Available parity modes are:
<table>
<tr><th>Parity mode name in NVR</th><th>Serial data, represented by given amount of bits</th><th>Parity mode (none, odd, even)</th><th>Number of stop bits</th></tr>
<tr><td>8N1</td><td>8</td><td>N</td><td>1</td></tr>
<tr><td>8O1</td><td>8</td><td>O</td><td>1</td></tr>
<tr><td>8E1</td><td>8</td><td>E</td><td>1</td></tr>
<tr><td>8N2</td><td>8</td><td>N</td><td>2</td></tr>
<tr><td>8O2</td><td>8</td><td>O</td><td>2</td></tr>
<tr><td>8E2</td><td>8</td><td>E</td><td>2</td></tr>
<tr><td>7N2</td><td>7</td><td>N</td><td>2</td></tr>
<tr><td>7O2</td><td>7</td><td>O</td><td>2</td></tr>
<tr><td>7E2</td><td>7</td><td>E</td><td>2</td></tr>
</table>
</td></tr>
<tr><td>Baud rate</td><td>Baud rate defines the data speed through serial port interface – the rate value represents the number of symbols that can be transmitted within 1 second. Please refer to the baud rate setting of the analog device and choose exactly the same baud rate setting also in NVR. When setting up ACTi Zoom, PTZ or Speed Dome cameras using "ACTi" protocol, you may ignore the baud rate setting.
Available baud rates:
2400, 4800, 9600, 19200, 38400, 57600, 115200</td></tr>
</table>

Address ID	Address ID represents the identity of the device, only analog devices or speed dome cameras require this configuration. Please refer to the Address ID of the device and choose exactly the same baud rate setting also in NVR 3.0. Available value is from 1~99. By default, ACTi devices will use "**1**" as Address ID, it is suggested not to change it.

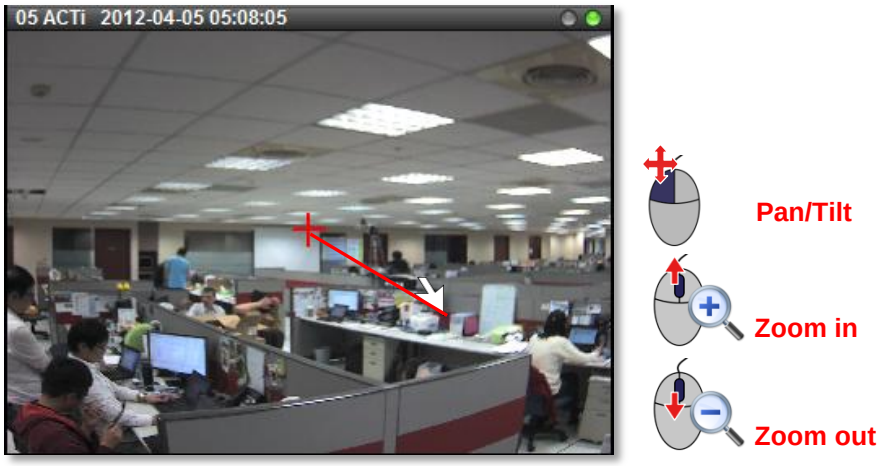
How to do Live PTZ Operation

To configure PTZ settings, you need to view the live streaming while manipulating the PTZ controls simultaneously in this window.

There are two kinds of PTZ navigation:

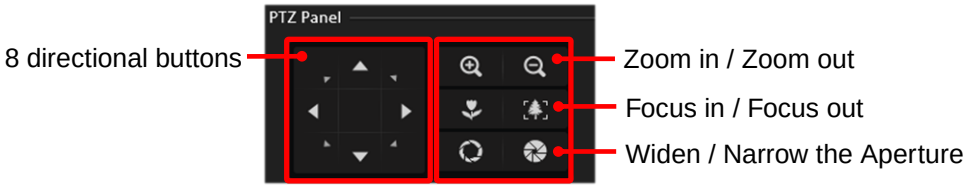
Optical PTZ Navigation

1. Get the live view from **Live Preview** window:
   Make sure the "**Enable PTZ**" is checked, a red crosshair will appear on the **Live Preview** window, if the device is in Dual Stream mode, this window will always shows the stream set for live view. You may click on to switch between the streams.
2. Use the mouse to do the following PTZ operations:
   ■ To execute optical **Panning** and **Tilting**, click anywhere on the live window to allow the camera to move in that direction. The length of the direction indicator is proportional to the Pan and Tilt speed. The farther you place the cursor from the center, the faster the Pan/Tilt movement.
   ■ To execute optical **Zoom in** or **Zoom out**, scroll the mouse wheel forward to zoom in; scroll the mouse wheel backward to zoom out.



3. Use panel controls to operate PTZ movements:

   Click a button on the panel to start, the red crosshair will appear in the view.



Note

1. The zoom buttons are only applicable for those devices supporting optical zooming.
2. The focus buttons are only applicable for devices with controllable zoom lens, e.g. KCM5211. Please remember to turn off the autofocus mode on device firmware before using these buttons.
3. The device should be equipped with DC-Iris or P-iris and has been switched to manual iris mode before you use the buttons for widening or narrowing aperture.

Digital PTZ Navigation

Digital PTZ allows you to zoom into part of the video and enlarge it to display on screen. This PTZ function is applied to every camera model in NVR 3.0 system.

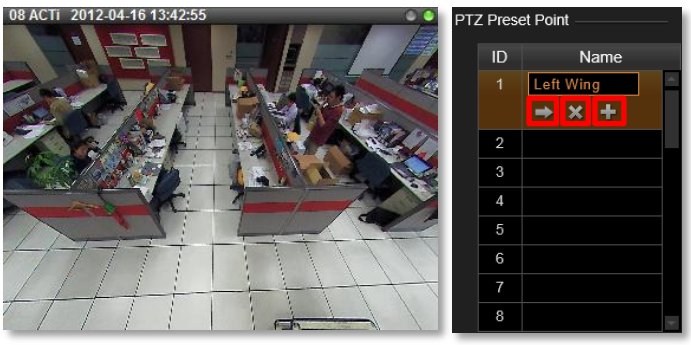
1. Get the live view from **Live Preview** window:

   Make sure the "**Enable PTZ**" is unchecked.
2. Click and drag a highlight rectangle over any channel, and the area highlighted will be displayed in the full live video window. In this mode, a picture-in-picture view will show in the lower right of live view window. A red rectangle will mark the currently enlarged view area within the full size video. You may click and drag the red rectangle to see another area.
3. To go back to the original full video view, just right-click on the minimized Picture in Picture view.

Set PTZ Preset Points

With PTZ devices, you may define a view by where to look (through panning and tilting) and how close (through zooming) to zoom. Once these views have been saved in NVR server as preset points, the device can always point to this view upon the event triggering or user's command.

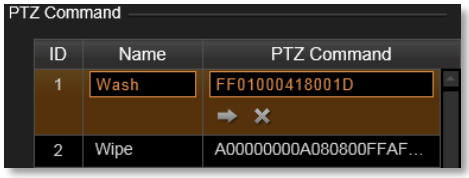
1. Go to **Setup** page →**Devices** tab, select the device from **Device List**, and click **PTZ** tab.
2. By PTZ operation, control the device to point at your desired view, and adjust the zoom level (if available). In **PTZ Preset Point** section, click a preset point name field to start editing the name, then click "**+**" to set this point. After finishing setting your desired preset points, click "**Apply**". You may review the points you set by clicking "→" to go to the point, or "**X**" to delete it. You may modify an existing point with following procedure: **1**. Select it **2**. Define a new view **3**. Click the "**+**" to set it **4**. Click "**Apply**" to save it.



3. After the preset points are set, they are available on **Live View** page →**PTZ control** panel.

Set PTZ Command

If your speed dome or PTZ device has a special function not supported in the standard protocol, you may input it in **PTZ Command** list and execute it. Ex: Activate the wiper to clean the window of the PTZ.



1. To add a PTZ action command, go to **Setup** page → **Devices** tab, select the device from **Device List**, on **PTZ** tab, check the "**Enable PTZ**".
2. In "**PTZ Command**" area, click in a command entry; input the name, command and then click "**Apply**" to save it. You may also click "→" to execute it or "**X**" to clear it.

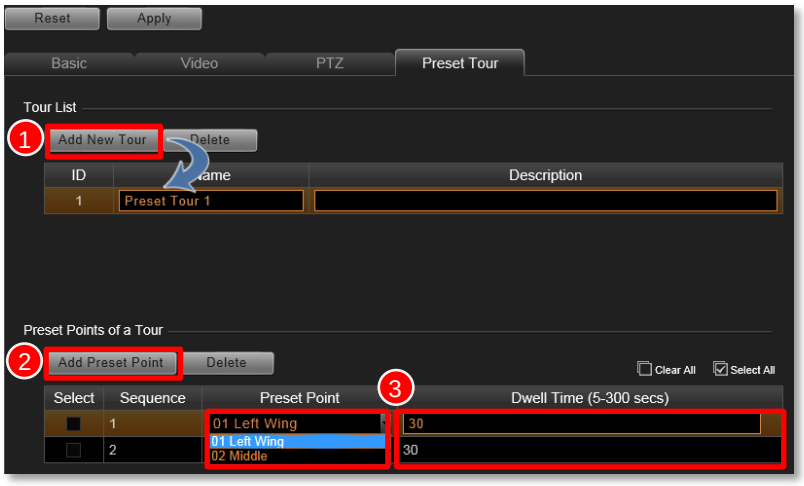
Set PTZ Preset Tour

Preset Tour is a preconfigured PTZ sequence that directs the camera to cycle through multiple preset points, including where to look and how long to look at each location. With this preset tour, your PTZ device can perform an automatic patrol to scan through your cared areas.

For example, a Preset Tour should include two or more preset points. Once a tour is initiated, the device will automatically point to the preset points based on the sequence and stay at that view according to the duration you set.

Before setting up Preset Tours, please make sure you have configured PTZ settings and set PTZ Preset Points. To start setting the Preset Tour:

1. Go to **Setup** page →**Devices** tab, select the device from **Device List**, and click **Preset Tour** tab.
2. In the "**Tour List**", as there is currently no existing tour, click "**Add New Tour**" to add one. The default tour name is "**Preset Tour 1**".
3. In the "**Preset Points of a Tour**" area, click "**Add Preset Point**" to add the number of points for this tour. The number of points may outnumber the actual preset points you set, for the same preset point might be gone through more than one time in a single tour. For each point, click in the "**Preset Point**" field to bring up the dropdown list, and select one preset point and define the dwell time which represents the time the device would stay in a certain view. Finally, click "**Apply**" to save the tour.



4. After a tour is saved, it is available on **Live View** page→**PTZ control** panel.

Note

The preset points and tour set in NVR 3.0 are independent from those you set on device. If you have already defined certain preset points or tour on device, they will not be brought over to NVR system. On the other hand, the settings on NVR 3.0 will not write to the devices.

Schedule Recordings

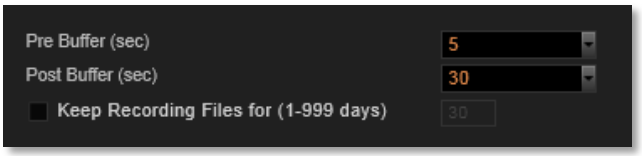
Unlike the traditional analog surveillance system, the IP surveillance system provides a target-oriented recording schedule for devices; the view of each device can be recorded based on your required time segments and event types. For example, you may have a camera installed on the office ceiling do continuous recording during work hours, and record only upon the triggers (incidents that detected by system) at night. In this way, the system does not waste disk space storing meaningless parts, and you save lots of effort browsing playback for specific events.

For the device's recording schedule, NVR 3.0 supports Schedule recording and Event recording modes, which are set up on a week-based timetable; the event-handling schedule can also be configured on it. This section describes how to setup the recording schedule for the IP cameras / video servers.

Configure the Recording File Properties

Before setting the recording schedule, you may define (1) where the recordings are stored, (2) how long an event recording is and (3) how long a recording file will be kept in the system.

1. To set the saved recordings folder, go to **Setup** page→**Storage** tab, make sure you have assigned the disk drives to store recorded files. For related recording settings, please refer to Storage Management on page 75.
2. To define how long an event recording is and the recording's lifecycle, go to **Setup** page→**Schedule** tab, select the device from **Device List**, a week schedule will appear on the right. Configure the recording file related settings. The settings below will make an event recording as long as 5+30 seconds, which will be kept on server for 30 days.



Attributes Explanation

Field Name	Description
Pre-event Recording Buffer (sec):	NVR keeps a short cache of video received from devices. If an event is triggered, NVR will automatically store the pre-event buffer along with the recording of the event itself. Available choices are **0**, **3**, **5** seconds.
Post-event Recording Buffer (sec):	This will determine how long after the event is triggered should be included in the event recording file. Available choices are **10**, **30**, **60**, **120**, **180**, and **300** seconds.

Keep Recording Files for (1-999 days):	NVR 3.0 will keep recording file of specific device for the number of days you set here. The default value is **30**, if you want to modify it, please check the box to start configuring it. Available value is among **1~999** days.

Tip

How to make proper storage arrangement

In NVR 3.0 system, there are two file-deleting mechanisms you can use based on different needs. If both rules are set, the threshold reached earlier will execute the deletion first.

1. "**Keep Recording Files for (1-999 days)"** – Set this rule if you have more concern in how long the recordings are kept, especially when you don't want the old recordings to stay longer in the system than a certain period.
2. **"Reserve space"** in the **Disk Drive List** on **Setup** page →**Storage** tab - If the disk space is more critical in your system, please give an approximate value here, the system will always reserve this amount of space to store the newer recordings.

Given that you set the **Reserve space** as **30G**, while **Keeping Recording Files** setting is **5 days**, certain recording file will be deleted when it has been kept on disk for 5 days, despite that there is still plenty of available disk space.

Before setting up the rules, you can make use of a handy storage calculator provided by ACTi to find out the estimated storage your system requires on ACTi corporate website: http://www.acti.com/project_planner

Set the Schedule

Here you can configure camera's recording schedule on 7 days / 24 hours basis. The schedule is split into segments of 20-minute-length. By default, once a device is added to the system, its schedule is automatically set to full time schedule recording and event handling. You should configure it according to your system plan.

Go to **Setup**-**Schedule** tab, on **Schedule Setting** panel:

1. Select the recording mode from "**Recording Mode Bar**"

   Schedule Recording :Continuous recording that channel

   Event Recording :Event recording, only events are recorded

   Event Handling :Event handling is activated.

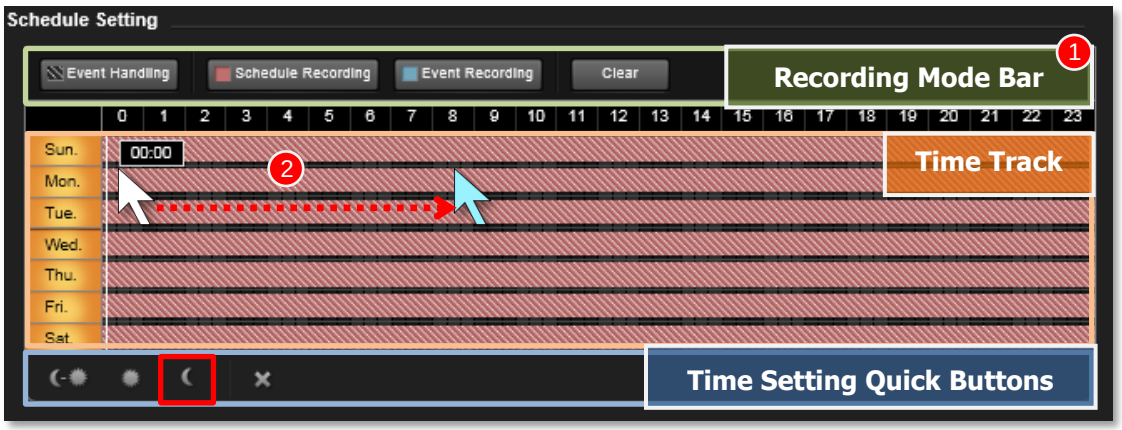
   (Please refer to How to Edit an Event Rule on page 65 for **Event Rules** settings)

   Clear : Clear the setting

   Schedule Recording + Event Handling : Continuous recording + event handling

   Event Recording + Event Handling : Event recording + event handling

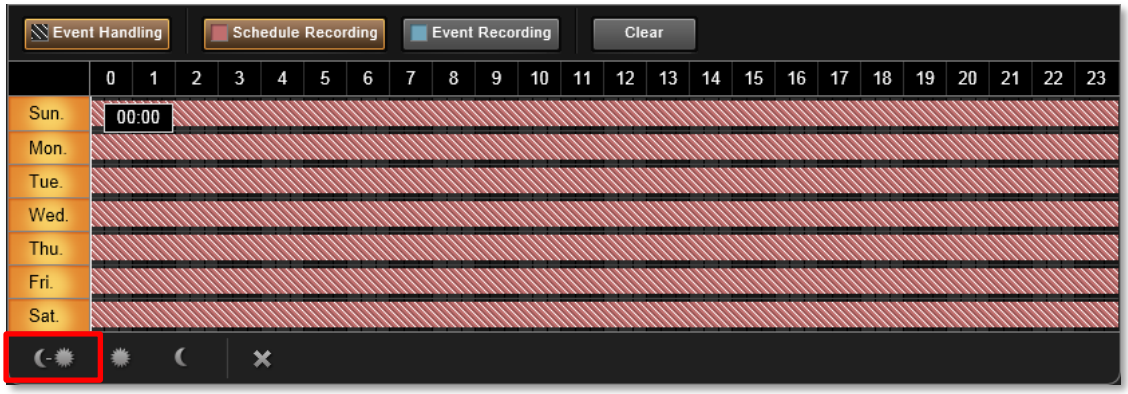
2. Click and drag over the "**Time Track**" to set time period.



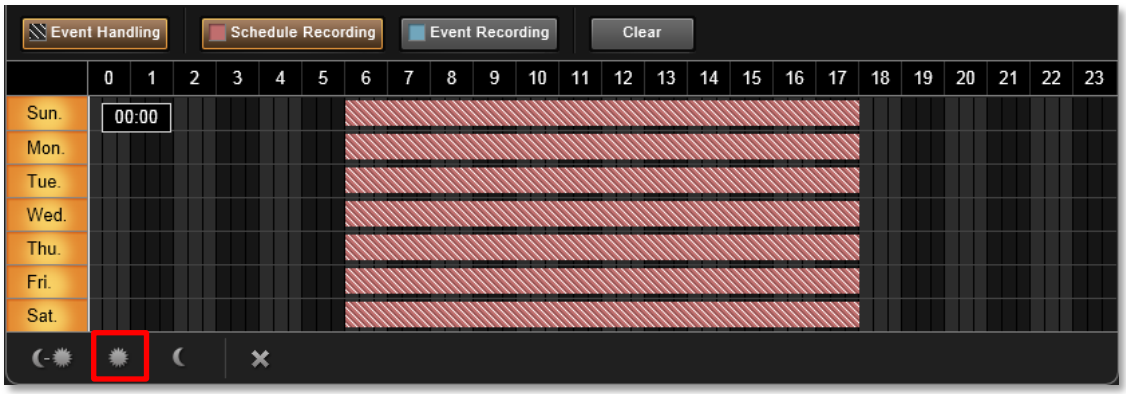
Use Time Setting Quick Buttons to Set the Time in One Click

Select the recording mode, then click one of these buttons to apply the mostly-used time settings.

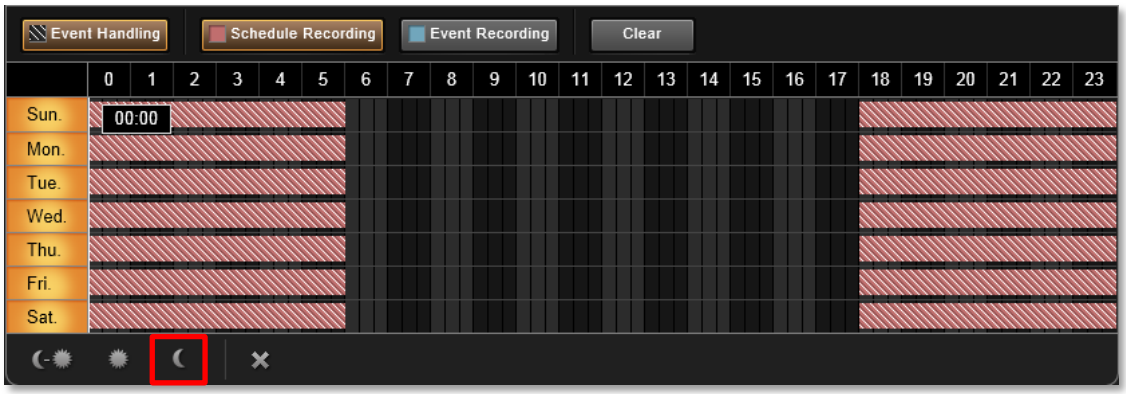
Click to apply schedule **for all day**.



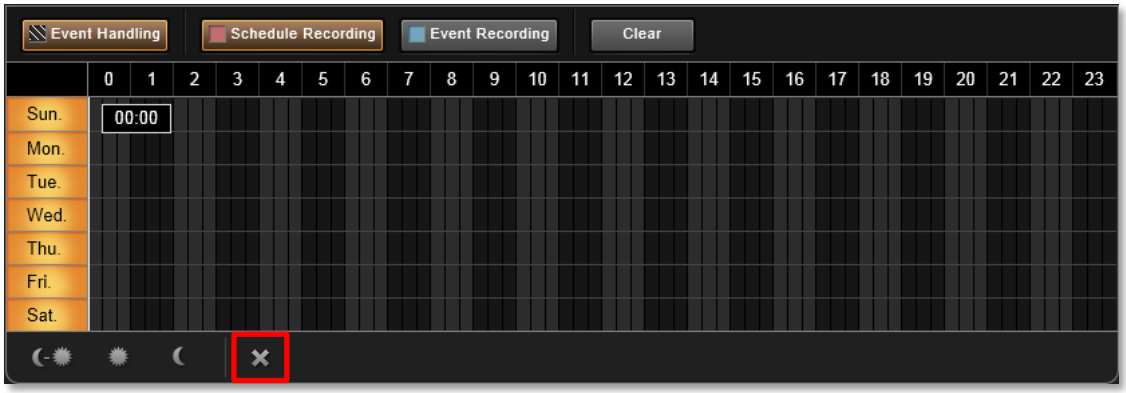
Click to apply schedule **from 06:00 to 18:00 every day**, with the settings for the rest of the time track being cleared.



Click to apply schedule **from 18:00 to 06:00 every day**, with the settings for the rest of the time track being cleared.



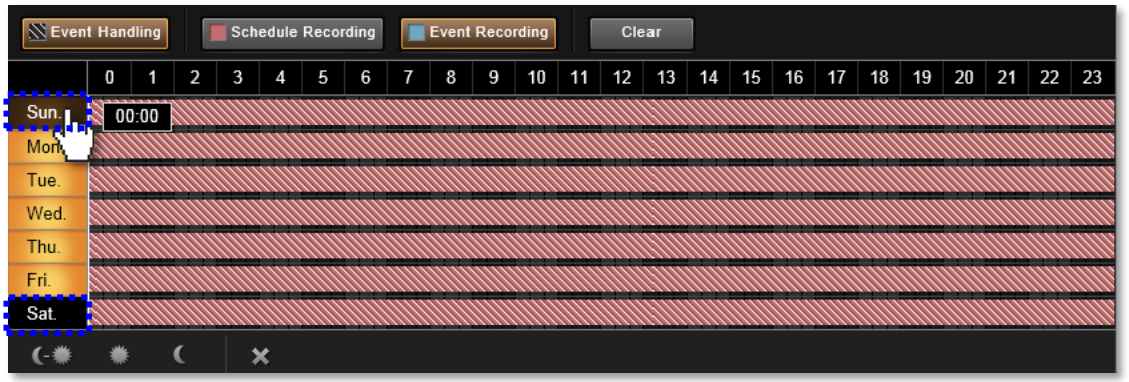
Click ✕ **to clear all schedule setting in this device**.



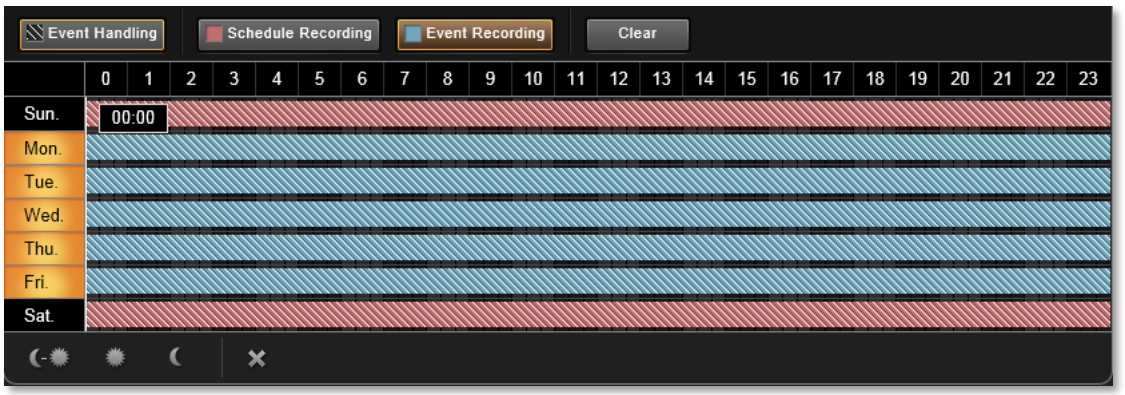
Lock Specific Days

Clicking the day of the week will lock/unlock that day from schedule setting. You can shield schedule on a certain day from being changed by changes in other weekdays. You may easily set just the weekdays or the same time over the same week this way. To do this:

1. Click the days to shield them.



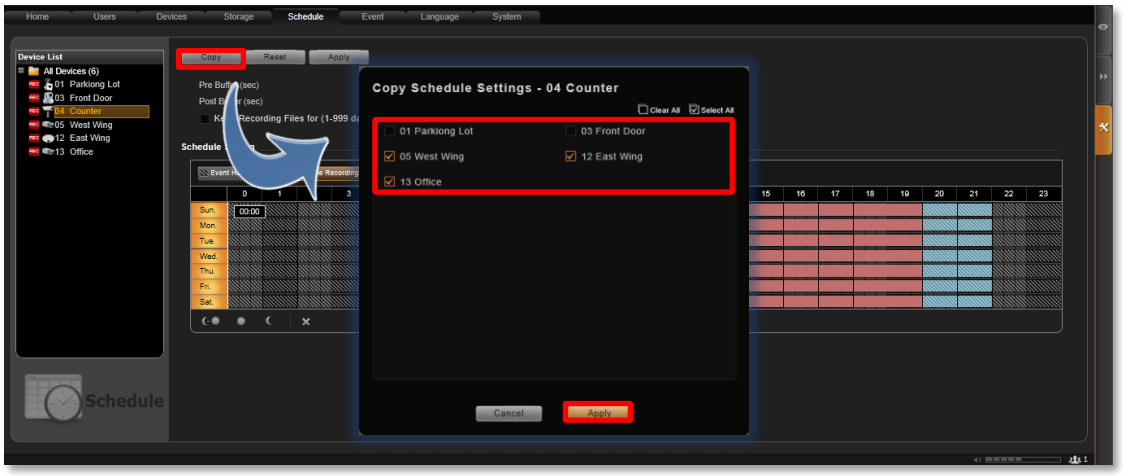
2. As you drag any settings over the time track, it will not apply to those shielded days.



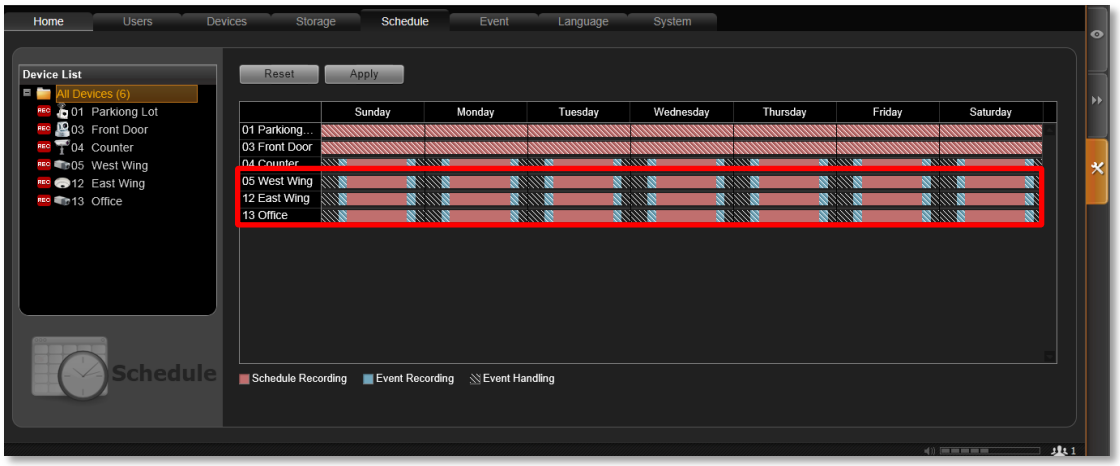
Copy an Existing Schedule to Others

With plenty of devices in your system, it happens that you want to apply the same schedule to multiple devices. After creating a schedule for one device, you can copy it to other cameras.

1. Go to **Setup** page →**Schedule** tab, on **Device List**, select the device you want to copy schedule settings from.
2. Click the "**Copy**" button.
3. On popup window, select target devices you want to copy schedule settings to.
4. Click the "**Apply**" button.

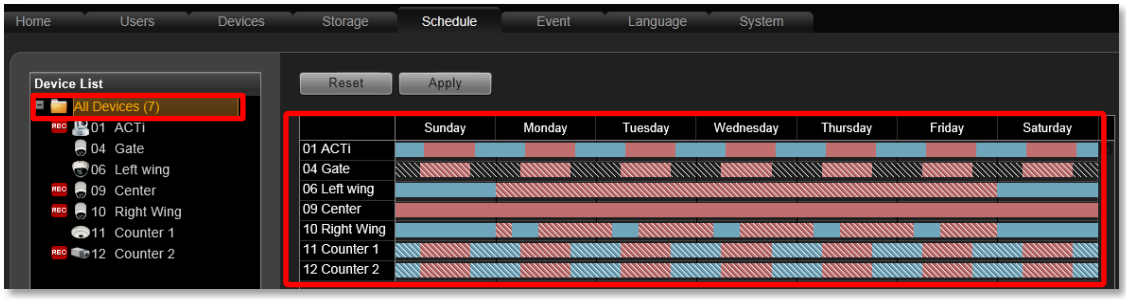


To check the result, go to **Schedule** tab, click **All Devices** on **Device List**.



View the Entire Recording Schedule

On **Setup** page →**Schedule** tab, click **All Devices** on **Device List**, an overview of all device schedules will be listed on the right.



The below list explains the status of different bar patterns:

Icon	Recording Function Description
	Schedule recording. During this period, device view will be recorded continuously.
	Event handling. During this schedule, the event rules you set are active.
	Schedule recording and Event handling are both active during this period.
	Event recording. During this period, only detected events (e.g. Motion/PIR) will be recorded .
	Event recording and Event handling are both active during this period

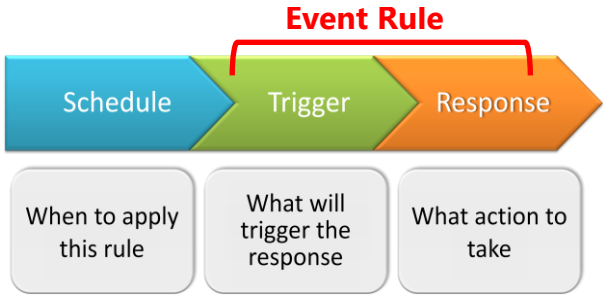
How to Know if the Recording is Proceeding?

As the recording is taking place, you can observe the status on the **All Device List**. There will be an icon

appearing in front of the device. In **Playback**, you can drag the playback bar to current time position to check the latest recording.

Event Management

When something happens on camera site, such as someone walks by, the door opens or closes, a fire breaks out or the sun goes down – these are all **Events**. Events which occur in the environment or were preprogrammed in the camera may be used as **Triggers**. Triggers cause the device to react with **Responses**. The link between trigger and response is governed by **Event Rules**. Event rules become active or inactive based upon a weekly **Schedule**. Each event rule detects one specific trigger and may initiate multiple responses. An example rule would be for NVR to send email to alert the supervisor (**Response 1**) and trigger alarm (**Response 2**) when motion detection from camera is triggered (**Trigger**) during the event handing active period (**Schedule**).



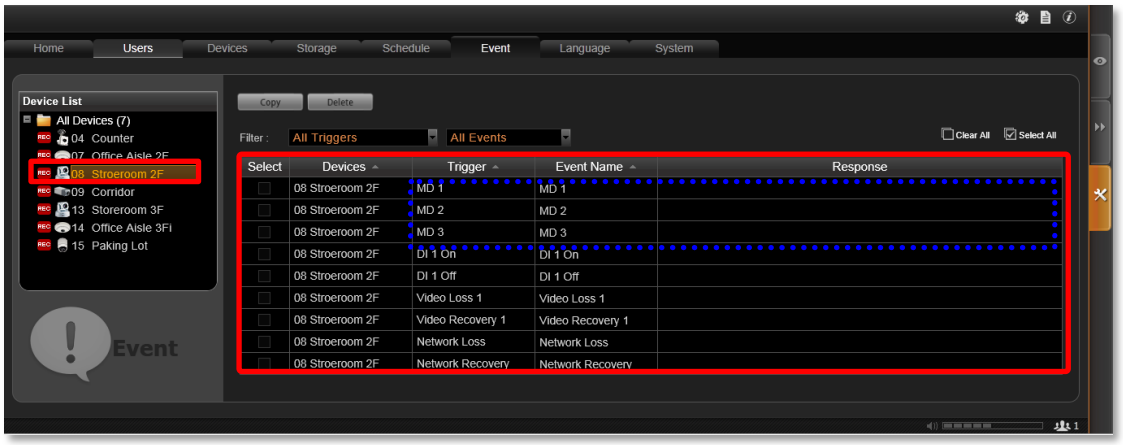
How does NVR Handle Events

In NVR 3.0, each device can be involved in several event rules. As different device models possess various capabilities, the supported event trigger types would vary. For example, a PIR built-in camera can execute a PIR-triggered event rule, while this option is not provided to other models without this feature; similarly, the supported response types would vary by device models, like Goto-preset behavior can only be executed by PTZ devices. The below chart shows NVR server supported **Trigger** types and **Response** types. Once a device is added to NVR server, the server would create empty rules with compatible trigger types for you to configure.

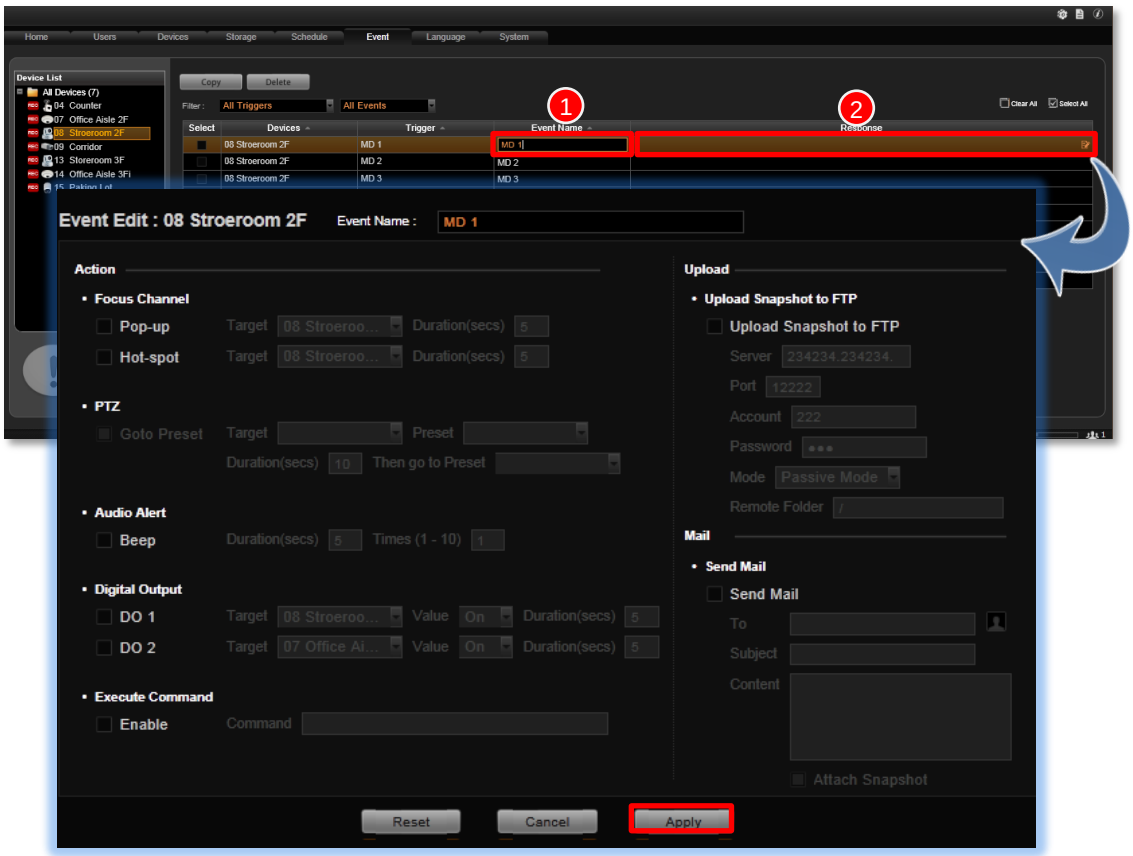
Trigger Type	Response Type
Video Motion Detection	Focus Channel in Live View
Digital Input	Make Device Pan/Tilt/Zoom
PIR Detection	Audio Alert
Video Loss	Trigger DO Device
Video Recovery	Execute URL Commands
Network Loss	Upload Snapshots to FTP
Network Recovery	Email Notifications/ Snapshots

How to Edit an Event Rule

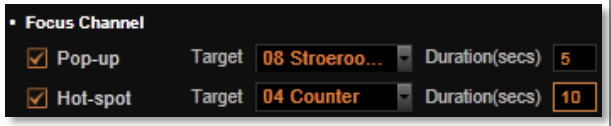
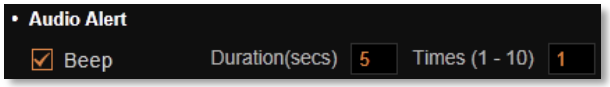
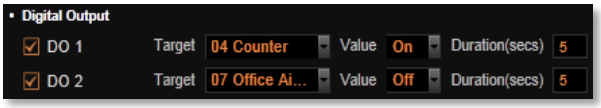
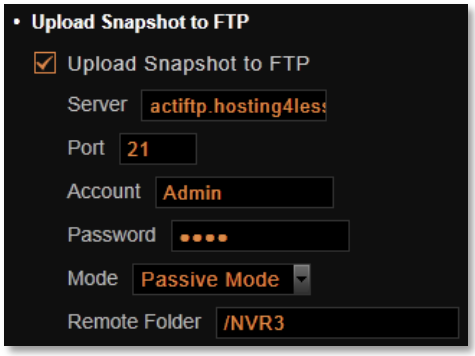
1. Go to **Setup** page → **Event** tab. All the editable event rules are listed in the device ID order.
2. Select a device from the **Device List** on the left. Based on the trigger types this device supports, the corresponding events rules are listed accordingly on the right. In this example, this selected camera model supports three motion detection regions, and hence three MD trigger event rules are available.

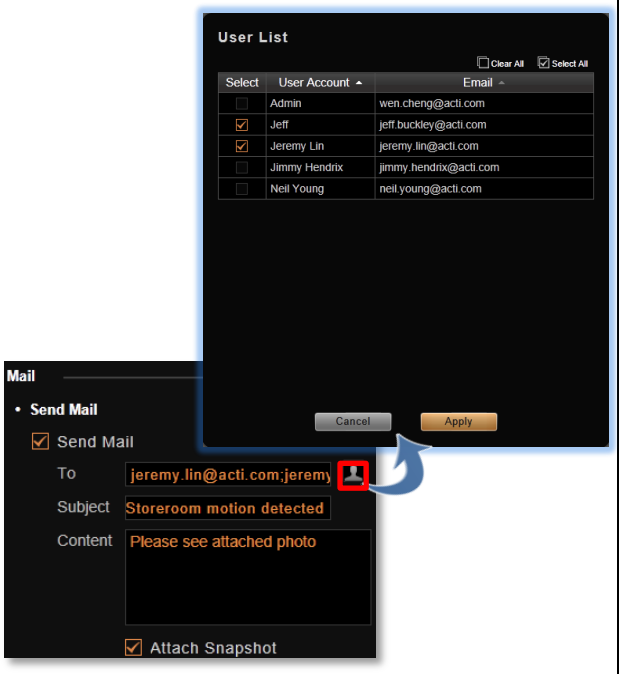


3. Highlight the rule you wish to edit. Click in the "**Event Name**" column to edit the event name, and then double-click the "**Response**" column to edit the response action.



You can enable multiple response actions by first checking the box(es) to enable the items:

Action Items	Function Description
	This kind of action will focus your attention on the channel when triggered. **Pop-up**: Brings up event pop-up instant playback window of selected channel upon trigger. You may also select the display duration of video on the window. **Hot-spot**: Displays video in Hot-Spot window (red flashing frame) upon event. You may also select display duration of video on the Hot-spot window
	Upon being triggered, specific camera can make PTZ movements like going to specific PTZ presets as responses. You may set both the start / end point and the duration. **This action is only available when you have set the preset points**
	Setup NVR to play beep sound for a number of repetitions.
	Setup the DO to become ON or OFF upon trigger, only the devices supporting DO functions can be the target devices.
	Enable NVR to execute a certain command upon this event. You can use it to integrate NVR's event handling with other programs. Enter the path of the command to be executed upon event.
	Enable NVR to upload FTP to a FTP site upon this event. The default FTP settings can be set in advance in **Setup** page→**System** tab→**Settings** → **FTP Settings**. You may set another FTP destination here for this single event. Please also make sure the FTP server setting is correct and the folder access rights are properly configured.



Enable NVR to send email notification via SMTP server. The default SMTP and sender's email settings can be set in advance in **Setup** page →**System** tab→**Settings** → **Email& SMTP Settings**.

1. Type one or more recipients' email addresses in "**To**" column (if more than one, please separate them by "**;**" symbol) or click the icon to select recipients from existing NVR User list. The Email address should be set in advance (in **Setup** page→**Users** tab→**Users**) for an NVR User so that it can be selected in this list.
2. Edit the email subject and content.
3. Choose to attach a snapshot or not. If event trigger type is **Video Recovery** or **Network Recovery**, this function is disabled.

4. After configuring the actions, click "**Apply**" to save this response.
5. Go to **Setup** page→**Schedule** tab and set the **Event Handling** schedule for this device. Event responses will only be triggered when the trigger time falls within either the **Event Handling** recording or the **Event Handling with Schedule** recording period.
6. To check if this rule is successfully set, please make sure you have properly configured the involved (1) trigging side settings like **Motion Detection Region**s or **DI**, (2) response side settings like **PTZ Preset Point**s, **SMTP Server** and **Email Recipient**s, **FTP Server** or **DO**. Then set the **Event Handling** schedule for current time and trigger this rule.

Note

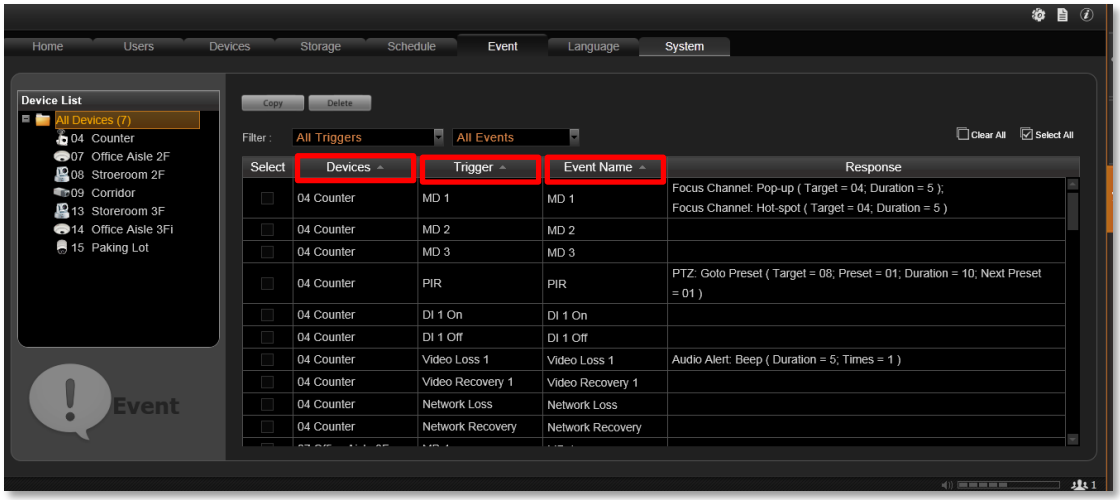
1. **Sending email**, **Uploading snapshot to FTP** and **Executing command** actions are executed on the server computer, not from the client computer.
2. There must be video stream from device when the event happens for event responses to work.
3. Internet Explorer browser may become unstable due to frequent pop-up instant playback windows, please avoid setting the "**Pop-up**" action as the event rule for a device which is too frequently triggered. The next server version v3.1 will improve the program efficiency with Internet Explorer browser.

Manage the Event Rules

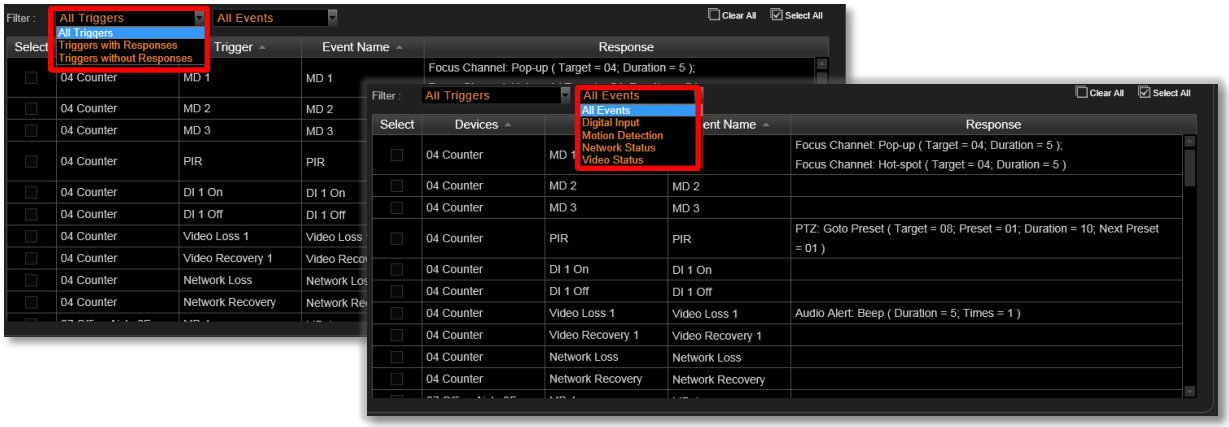
Event List panel gives an overview on event rules set on the NVR server. Go to **Setup** page → **Event** tab → select **All Devices** on the left. As the entire available rules of all devices are listed here, you may want to sort out some of them from the long list.

View the Event Rules

To sort by **Device** name, **Trigger** type or **Event Name**, click the titles to list the entries in ascending or descending alphabetic order.

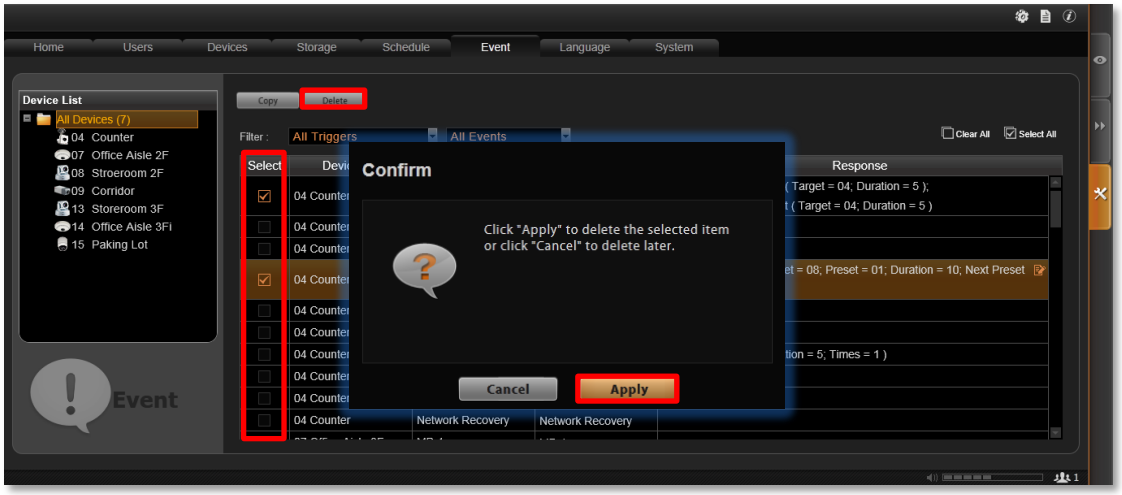


To filter out the configured events, select from the "**All Triggers**" dropdown list; or filter by the event type by selecting from the "**All Events**" dropdown list.



Delete the Event Rules

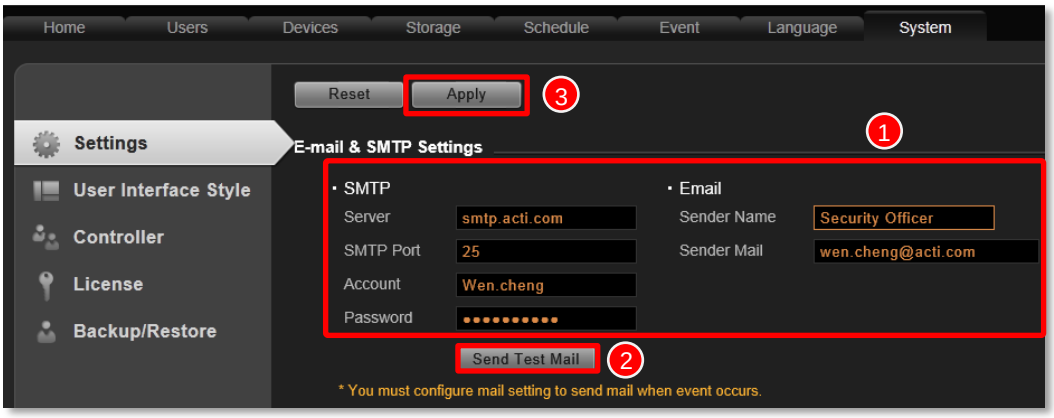
On **Event List**, select the rules you wish to delete, and then click "**Delete**" to clear this rule.



How to Setup SMTP Settings for Event Rules

NVR 3.0 supports email notification for **Event Handling** sent through an SMTP server. You can specify the email and server settings here.

1. Go to **Setup** page→**System** tab→**Settings** → **Email& SMTP Settings**.



2. Fill in **each** of the following fields.

Field Name	Description
Server	Input the sender's SMTP server address. Only alphabets, numbers, and the symbols (.), (_), (-) are valid. NVR server does not support the SMTP services with SSL protocol. If you wish to use a free webmail SMTP service, you may choose certain webmail providers such as **Yahoo** (SMTP: smtp.mail.yahoo.com Port:25) or whose SMTP servers don't require SSL authentication.
SMTP Port	Set the SMTP port, allowed value is from 1~65535, default is **25**.
Account	Input the name of the SMTP server account. Only alphabets, numbers, and the symbols (@), (.), (_), (-) are valid.
Password	Input the password of the SMTP server account. Only alphabets and numbers are valid.

Sender Name	Input the name or title of the sender. You may input a name different from the account name.
Sender Mail	Input the sender's email address, should the same account you set for SMTP server.

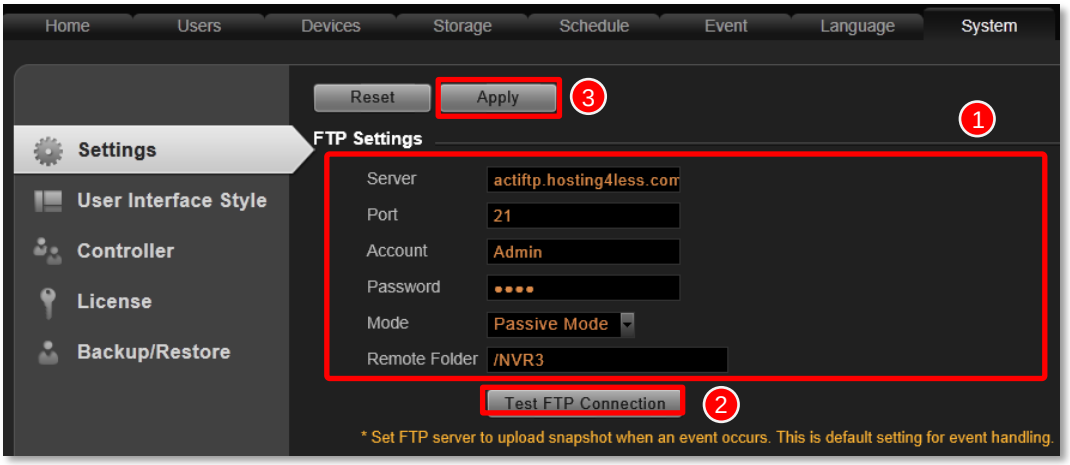
3. As all necessary information is filled in, click "**Send Test Mail**" to try sending an email according to your settings, and then log in to your SMTP server to check incoming emails. If the test mail is sent successfully, NVR server is ready to send out emails.
4. As the settings are confirmed, click "**Apply**" to save.

How to Setup FTP Settings for Event Rules

NVR 3.0 supports uploading snapshots to FTP servers for Event Handling.

You can specify the email and server settings here.

1. Go to **Setup** page→**System** tab→**Settings** → **Email& SMTP Settings**.



2. Fill in **each** of the following fields.

Field Name	Description
Server	Input the FTP server address. Only alphabets, numbers, and the symbols (.), (_), (-) are valid
Port	Set the FTP port, allowed value is from 1~65535, default is **21**.
Account	Input the name of the FTP server account. Only alphabets, numbers, and the symbols (@), (.), (_), (-) are valid.
Password	Input the password of the FTP server account. Only alphabets and numbers are valid.
Mode	The FTP works in two very different manners, **Active** mode and **Passive** mode. If your FTP server is behind the firewall or a NAT router, you have to use "**Passive**" mode.
Remote Folder	Input the upload path of the file. Default will be "*/*" to represent the root folder.

3. As all necessary information is filled in, click "**Test FTP Connection**" to test the connection. If NVR server pops up a "Testing **FTP connection was successful**" message, NVR server is ready to upload to this FTP.
4. As the settings are confirmed, click "**Apply**" to save. The FTP settings here will be default for every event rule.

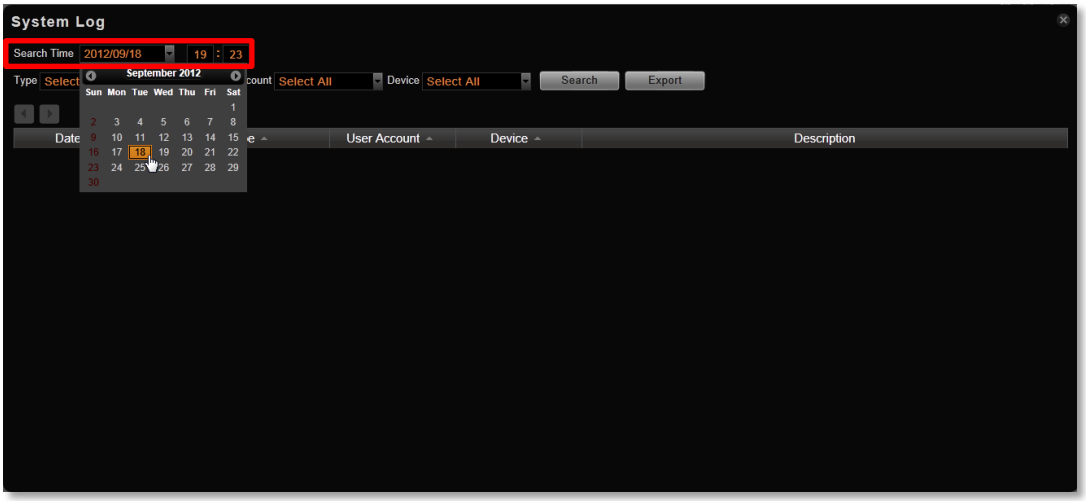
System Log

The activities performed by logged-in Users are recorded on server as **System Log**. With the access permission, a user may view, search and export this record for analysis or investigation. This section will provide the instructions on how to read and search data in the system log.

"**System Log**" is one of the resident buttons on top of NVR server user interface, click it to enter search window.

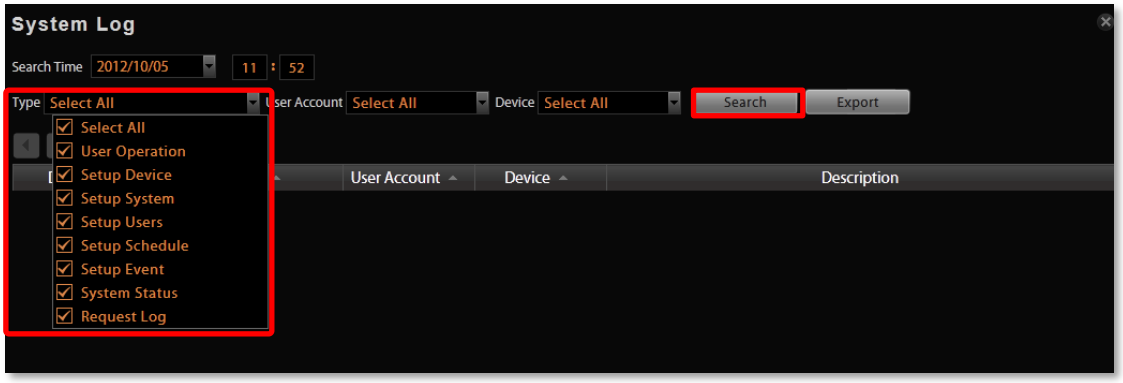
Define Search Time

You need to first define the time of the logs you would like to search for. On **Search Time** bar, define the date and time. Default is your current client time.



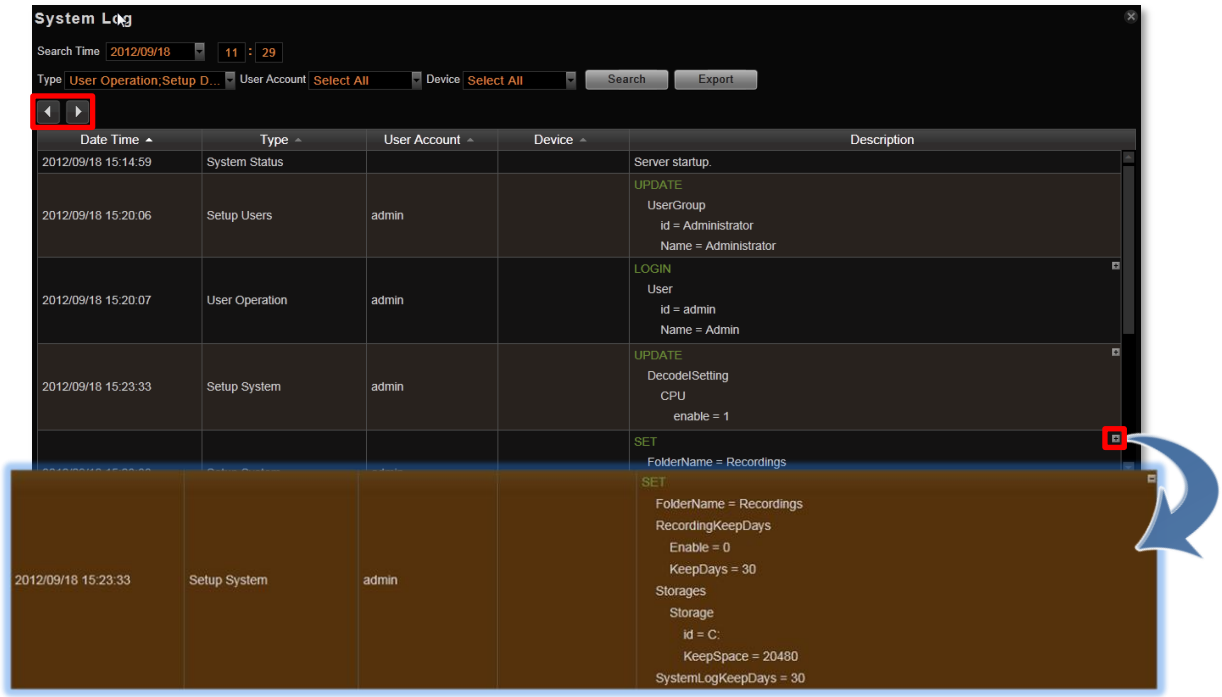
Choose Log Type

You may filter the logs by **Type**, **User Account**, and **Device** by selecting from dropdown list, then click "**Search**". By default, all types are selected.

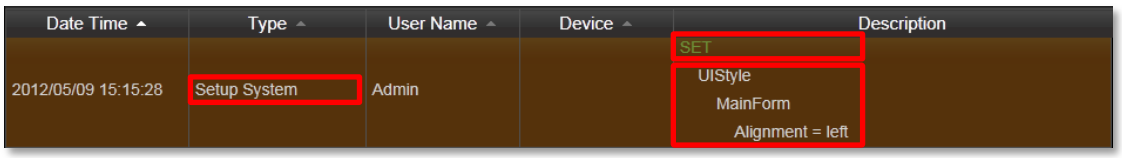


Read the Log

The search result will show 1000 records before and after your query time. You may click the pagination buttons to navigate earlier or later records. If there is an icon on the right top corner of an entry, click it to view the full description content.



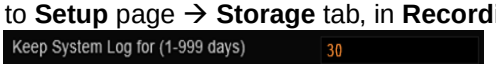
A log entry contains several kinds of information including **Date Time**, **Type, User Account**, **Device** and **Description**. Check **Type** and **Description** fields to know what the user has done or what happened to the whole system. In **Type** field shows what major functions user engaged in, in **Description** field narrates how the change was done (in green font color, uppercase) and the result (in white font color).



The following user behaviors are recorded in NVR server:

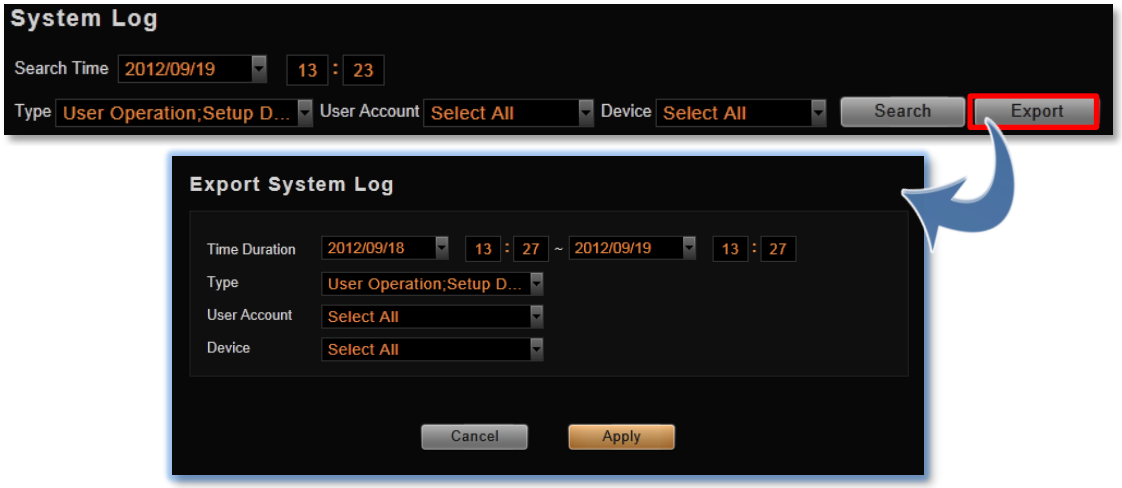
Type	Description
User Operation	Login, Logout, Manual Record,Trigger DO
Setup System	Recording Configure, Storage System Setting
Setup Users	User – Add,Delete,Modify User Groups – Add, Delete, Modify
Setup Schedule	Modify
Setup Event	Modify
System Status	Server start up, Disk full, Disk Not Found, Disk Is Available
Request Log	Time, source ip address, /SYS/SystemMgmt/xxxxx ,200

Note

If the pagination button appears to be disabled, that means no more records found on NVR server. By default, the server will keep the logs for 30 days. If you wish to adjust the period, please go to **Setup** page → **Storage** tab, in **Recording Settings** section, key in the value in this field: 

Export the Log

Click "**Export**" button to export the log as .csv file. You can specify the time duration, type user and engaged device of the logs, and click "**Apply**".

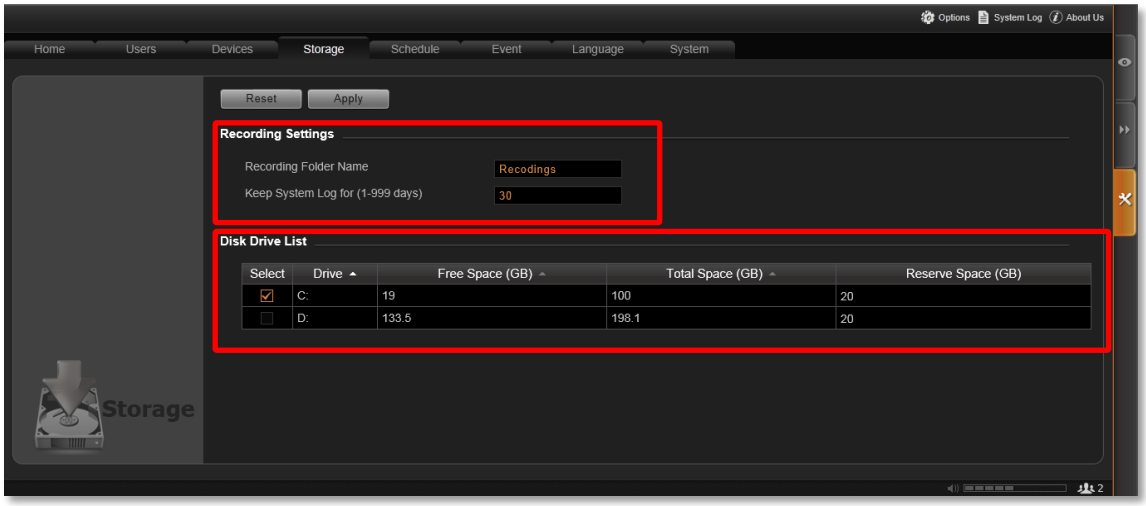


Storage Management

This section describes how to manage storage space in NVR. Please note that this section only deals with the overall storage rules, and not storage of individual channels.

Please note that as NVR continuously writes and deletes file from the disk drive, using a removable disk may risk losing recording when device is removed while being accessed.

Go to **Setup** page→**Storage** tab.



Change Recordings Folder Name

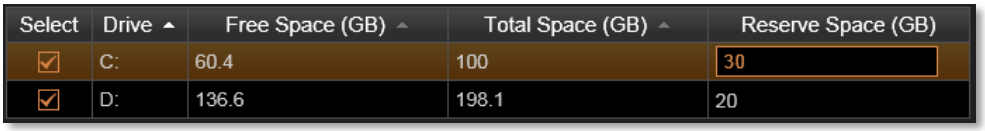
In "**Recording Settings**" section, you may change the name of video recordings folder. The video files are saved in a folder named "**Recordings**" under hard drive root directory. You may change the name here.

Set System Log Lifecycle

System Log is the record of User activities and events that took place on the server. In "**Recording Settings**" section, you may set how long this record is kept on the server. Default is **30** days.

Set Hard Drives for the Recorded Files Deletion Rule

1. On **Disk Drive List** displays the detected hard drives in your server computer. You may select the storage location of the recording files and set the deletion threshold. By default, NVR server will select **C** drive as storage location.



2. After selecting the disk drive, please set the deletion rule. There are two ways to delete recordings, when both are active, NVR server will start to delete old files when any of the criterions is met:
   (1) Keep the recordings for a number of days, and delete files older than this period by 1 GB at a time. Please go to **Setup** page →**Schedule** tab to set it.
   (2) Keep recordings until the disk is almost full, and then delete the earliest recording files by 1 GB at a time. NVR server will delete old files when available space is lower than **Reserve Space** you set in **Disk Drive List**.

When setting the deletion rule, please input a number in **Reserve Space** which should be smaller than your current **Free Space**.

Item	Description
Free Space (GB)	Currently available space of the chosen disk drive.
Total Space (GB)	The total volume of the chosen disk drive.
Reserve Space (GB)	This is the amount of space to be reserved for the whole computer system. Once the free space is used up as to reach the limit of reserve space, the system will delete the earliest recordings. The "Reserve Space" should always be smaller than "Free Space"

3. When finish settings, click "**Apply**".

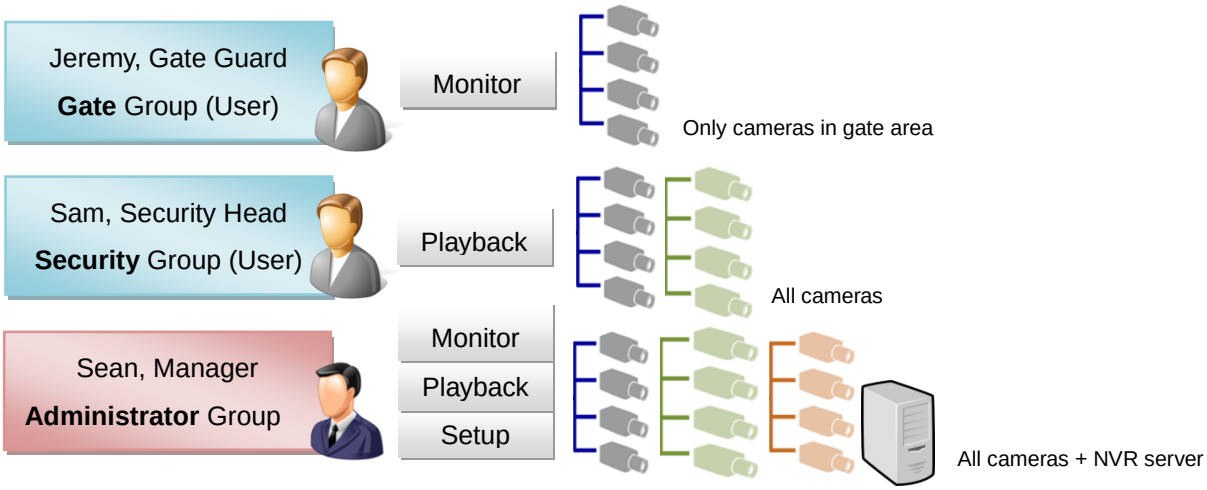
Manage User Groups/ Users

The User Groups/Users page allows you to (1) manage the access permissions of different user groups, (2) add users to or delete them from user groups, (3) and assign users to specific user group. This chapter will take you through these settings.

Access Permissions

In NVR 3.0, the access permissions are managed by **User Groups**. **User Groups** defines what functions and devices are allowed for each user. Different **User Groups** will have different access rights in terms of permitted operations with each device like **Live View**, **Playback**, and NVR server management operations like **Device Setup**, **Schedule Setup**, **Event Setup** and **System Setup**. For example, an Administrator User is allowed for all the operations in NVR, while a standard User may only be permitted to do **Live View** and **Playback** with limited devices.

The chart below displays different employees as NVR Users and their access rights in this system:



Overview

Go to **Setup** page →**Users** tab. There are two sections to manage User Groups and Users individually.

User Groups: To setup user groups and its permissions for device and functionalities.

Users: To manage user accounts and configure user information.

ACTi NVR 3.0 has integrated **Microsoft Active Directory®** service to provide network administrators a more convenient choice for user management. Active Directory is a directory service built in Microsoft Server products to manage user identities and privileges within the

domain network. As ACTi NVR 3.0 runs on a server computer logged on to the same domain with Active Directory server, you can import a user account or a group from those concurrently existing in Active Directory into NVR server. In this way, the user identification is processed by Active Directory centrally; there is no need for NVR administrator to maintain user accounts as long as they are under management of Active Directory service.

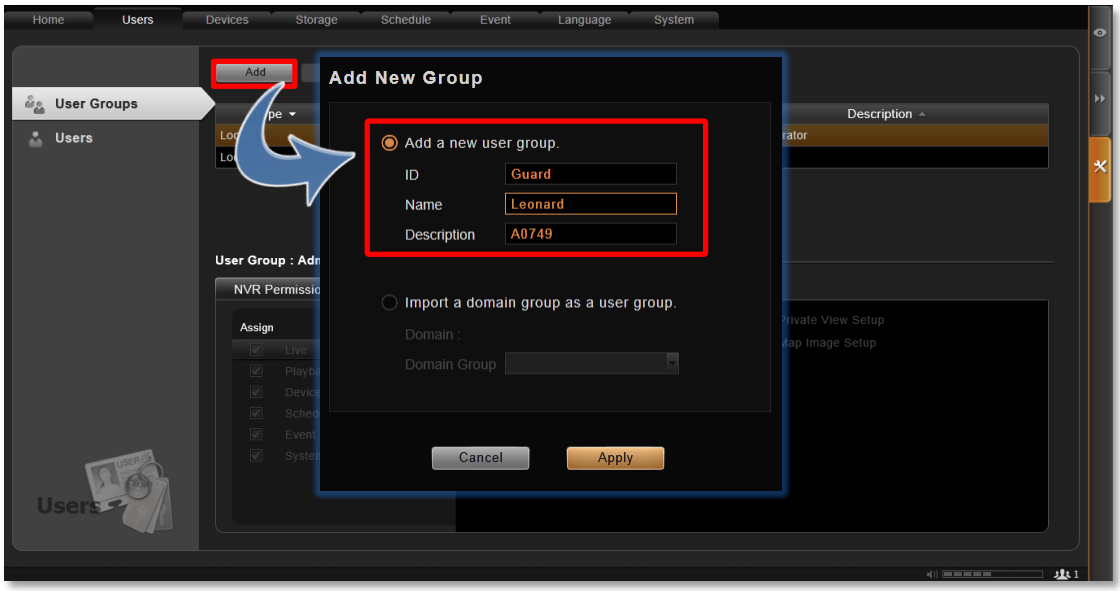
User Groups

You can specify access permissions to each device for a whole user group. This user grouping can save you significant amount of works if you have multiple users performing similar tasks and acting as similar roles.

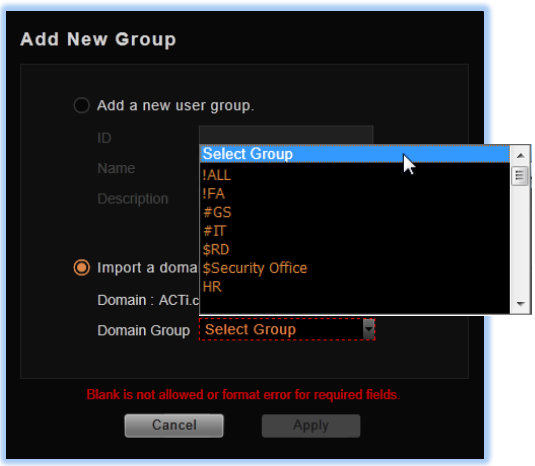
By default, the **Administrator** User Group already exists, with full permissions in the NVR You can choose to create a new user group on NVR server or import an existing group from the active directory database within your domain.

1. Select User Groups, click "**Add**" and then choose the group type:

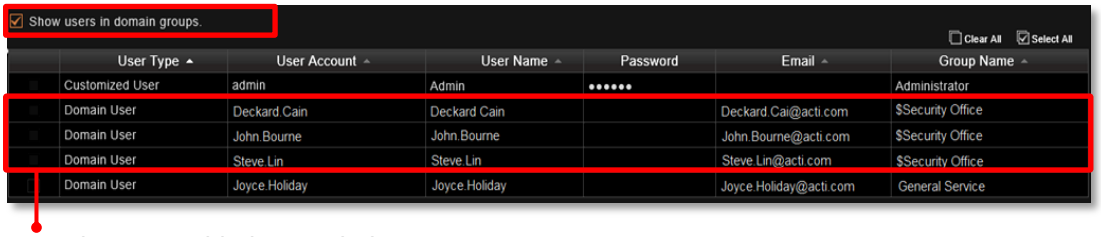
● Add a new user group: Insert **ID**, group **Name** and group **Description**, your input in the **Name** field will be the name of this User group. Click "**Apply**" to finish.



● Import a domain group as a User group: Choose an existing user group from your domain, and click "**Apply**" to finish.

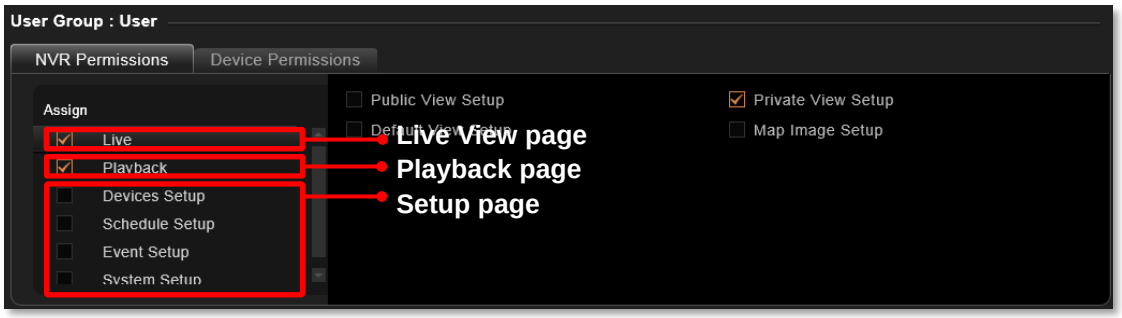


The domain users within that group will all be added to NVR server at the same time. To check these group users, please select Users and enable the "**Show users in domain groups.**" These users, unlike those user accounts you would add one by one to NVR server, are not editable individually on **Users** page.



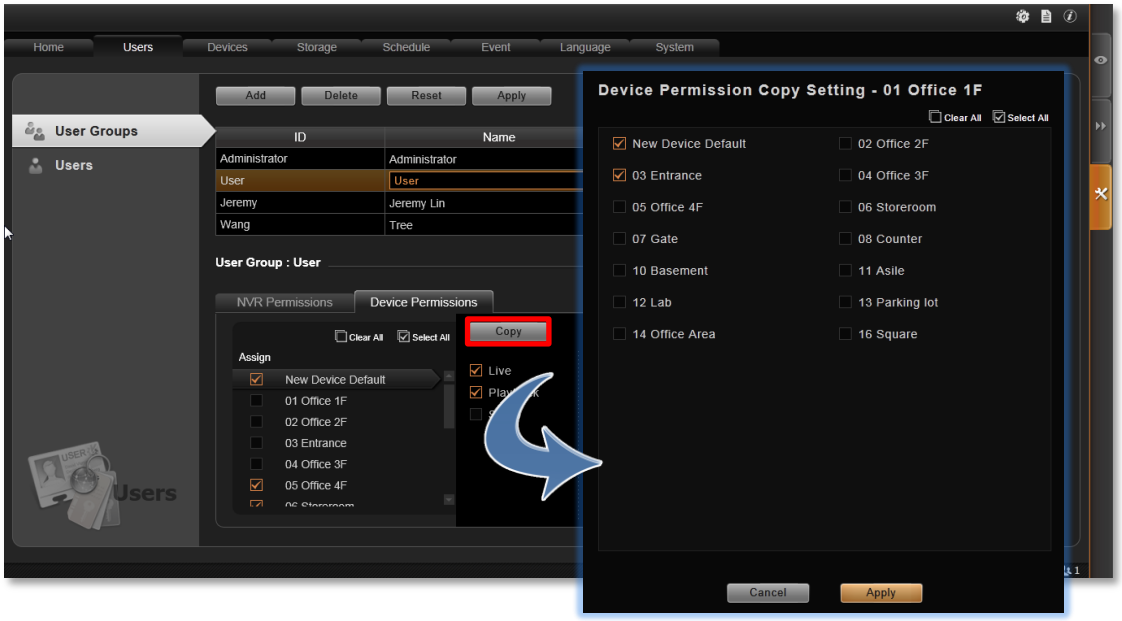
Domain users added as a whole group

2. Assign **NVR Permissions** for created group. This will define what functions this User group is allowed to access. By default, a User group will initially be allowed to access only **Live View** page and **Playback** page, but without any permission to any device, so you will have to assign the device permissions later.



3. Assign **Device Permissions** for created group. This will define which devices this User groups is allow to access. If this User group is allowed to add new devices, check "**New Device Default**" and edit the permissions, these default settings will be applied to any device added by this user group.

You may copy the **Device Permissions Settings** to other devices. Click "**Copy**" under **Device Permissions** tab to bring up the target device menu, check the target devices, and click "**Apply**".



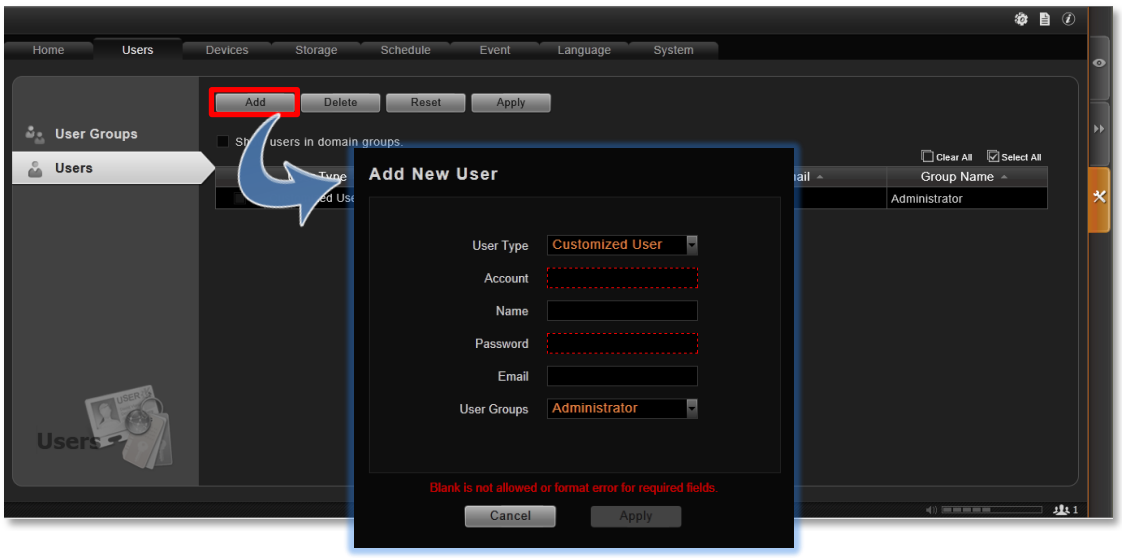
Click "**Apply**" on top to save the settings.

Add Users

You can create a user account with user name and password authentication for NVR 3.0 server.

1. Select

, and click **Add** button.
2. Select **User Type** as **Customized User** or **Domain User.**
   - Customized User: an account created and managed on NVR server only.
   - Domain User: an account that already exists in Active Directory database within the domain.
3. Insert user account, name, password, and the account mail.
4. Assign created user to specific user group.
5. After you click "**Apply**", this new user will be added to the list on top.



Note

Account /Password Rules

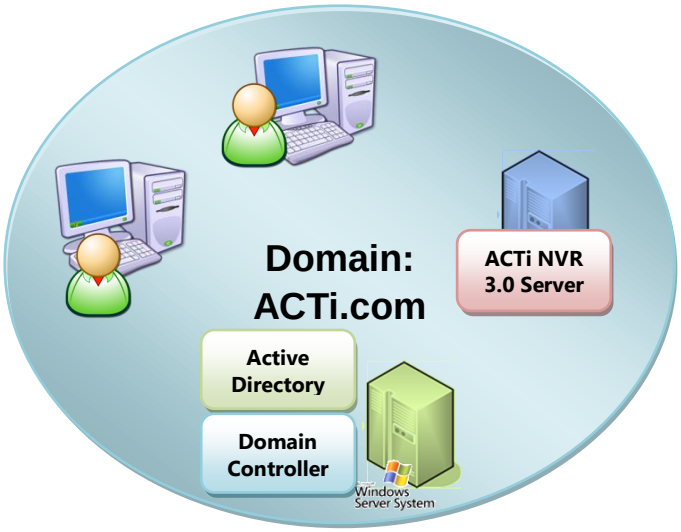
1. **Account** and **Password** fields allow alphabets, numbers, and symbols except the following: **/ \ [ ] : ; | = , + * ? < > "**
2. In **Account** field, for alphabets, the input will be recognized as lowercase letters. Space is only allowed between characters; the space in the beginning or at the end will be deleted as it is saved.
3. The **Password** field is case-sensitive, and the space is allowed.

Note

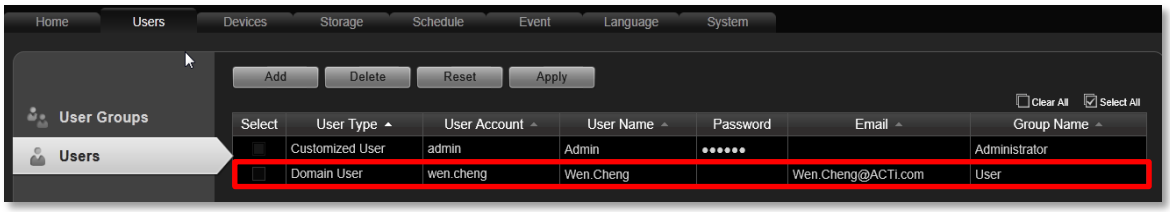
Admin is the default user account and belongs to "**Administrator**" user group. Hence, the user **Admin** and the group **Administrator** cannot be deleted; it possesses full permissions to all devices and NVR settings.

Domain Users Management

As ACTi 3.0 server computer logged on to a domain Active Directory, it can import a user account from Active Directory.



This type of User account is "**Domain User**". Upon being added to NVR server, the User properties stored on Active Directory database including account name and email address will be imported to NVR server.



Whenever the Domain User client tries to log in to NVR server, NVR server will first verify if this account exists in NVR server database, then will have Active Directory verify the user account and password.

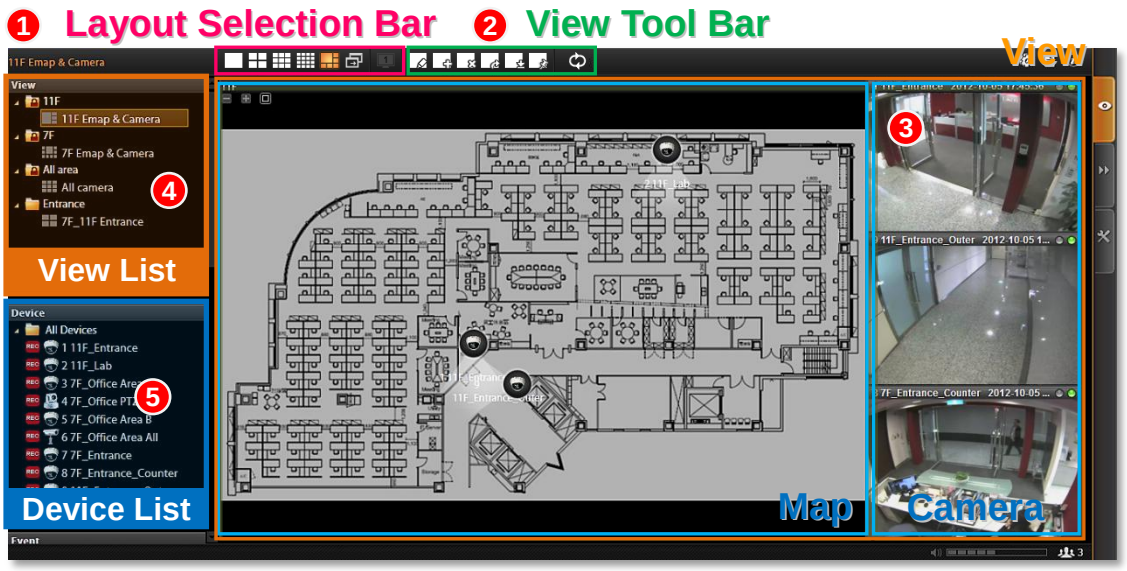
As Active Directory owns the privilege to create, edit and delete domain users, **the Domain User's account and password are not editable through NVR user interface but via Active Directory Administrative Tool**.

Customize Views

After all devices are configured, you may start customizing the views for different users and purposes. This chapter will teach you how to add video source, arrange the channels and manage live view layouts.

In NVR 3.0 system, a **View** refers to the layout where the live images of **Cameras** or **Maps** are arranged in proper positions to suit the monitoring purpose. This is very similar to a camera group, which often consists of cameras in the same physical location or with the same device functions. For example, a View named **11F Emap & Camera** may contain the 11F floor plan and the cameras actually placed on 11F.

Live View interface overview

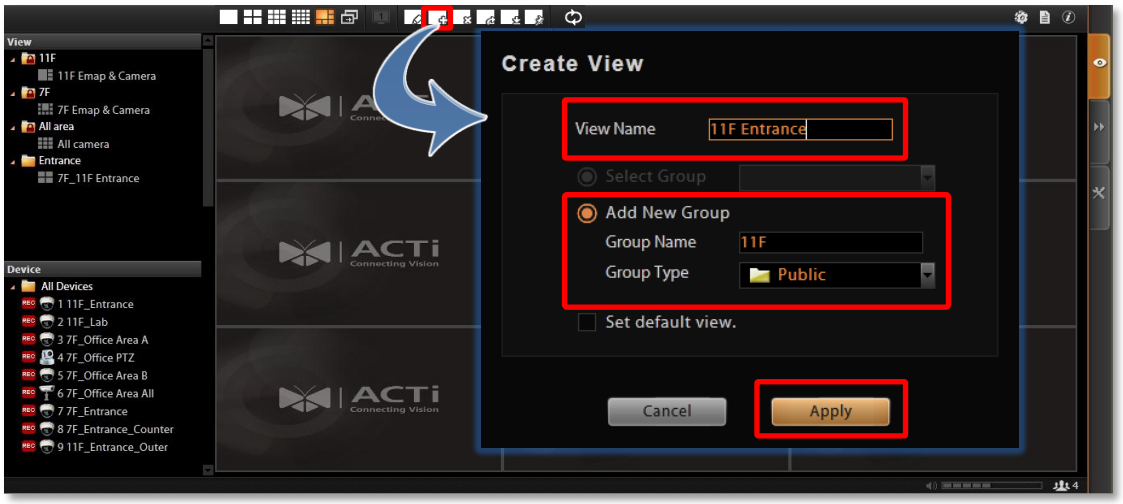


1. **Layout Selection Bar**: Provides 24 options for layout styles.
2. **View Tool Bar**: Provides functions keys for editing.
3. **Channels**: Each channel window may display a camera view or a map. In edit mode, you can adjust the channel size at will.
4. **View List**: All the saved Views are shown here. On **Live View**, you can go to → **View Manager** to group and manage these views (refer to Manage the Views on page 89).
5. **Device List**: In edit mode, drag camera from here to your desired channel.

Step 1: Create a New View

On **View Tool Bar**, click the **Create View** button , input the **View Name**, add a **New Group** for this View and decide whether this group is to be **Public** or **Private**, and then click "**Apply**".

- The views under **Private View Group** are only available to the User who created them.
- The views under **Public View Group** are open to every User.

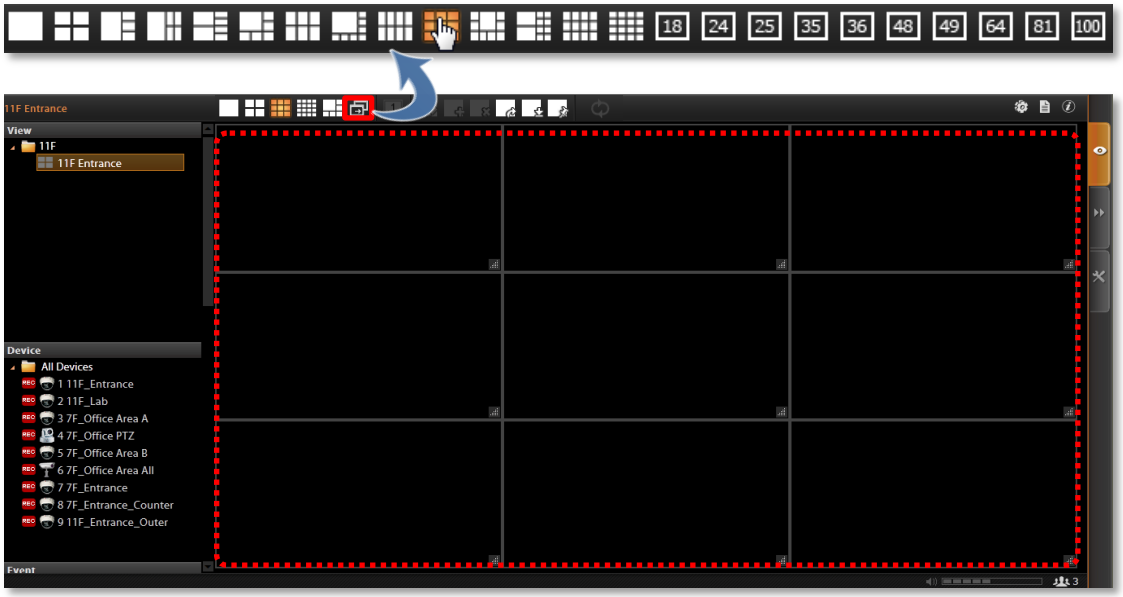


Step 2: Enter Edit Mode

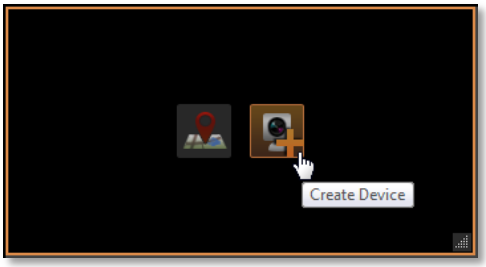
On **View Tool Bar**, click the **Edit View** button , this view will turn into edit mode. In edit mode, you may add a video source to a channel, and adjust the channel size.

Step 3: Select a Layout

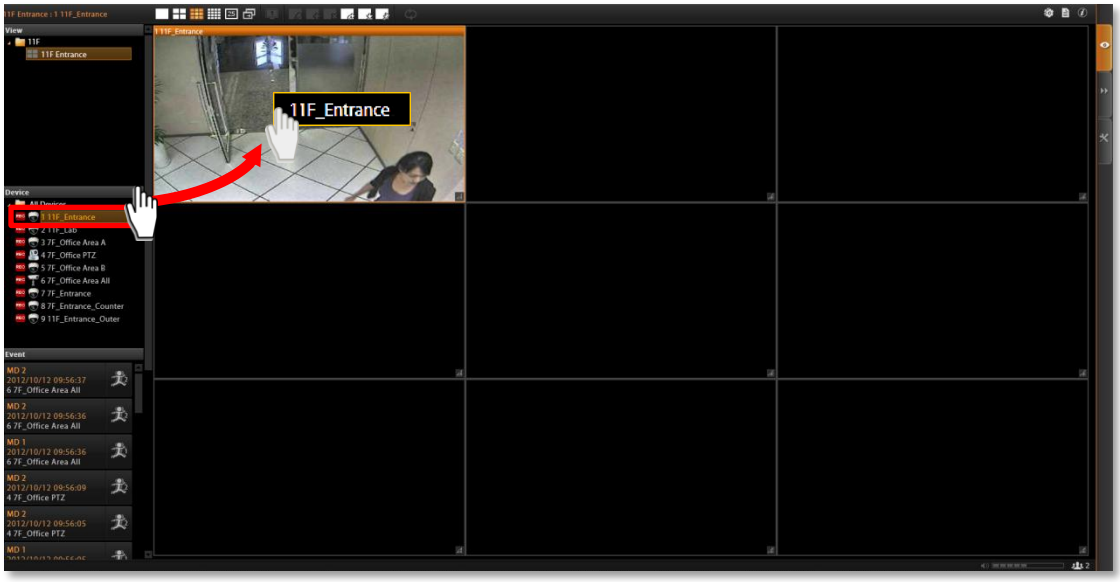
On **Layout Selection Bar**, click the **Expand** button for all provided layout styles. Select a layout that is perfect for your required channel number and ideal arrangement.



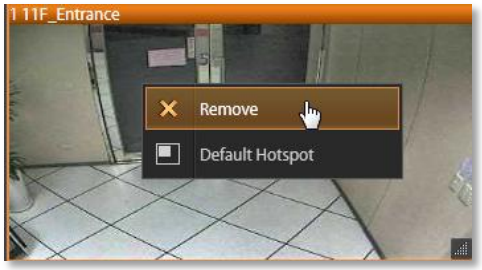
Step 4: Add Video Source



In edit mode, move the mouse over the channel and click . You may also directly pull a camera from the **Device** panel to your desired channel.

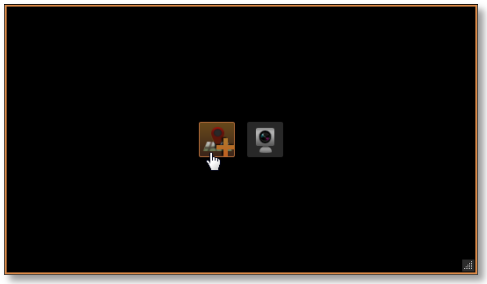


●**Remove the camera view:** right-click on the channel and elect "**Remove**".

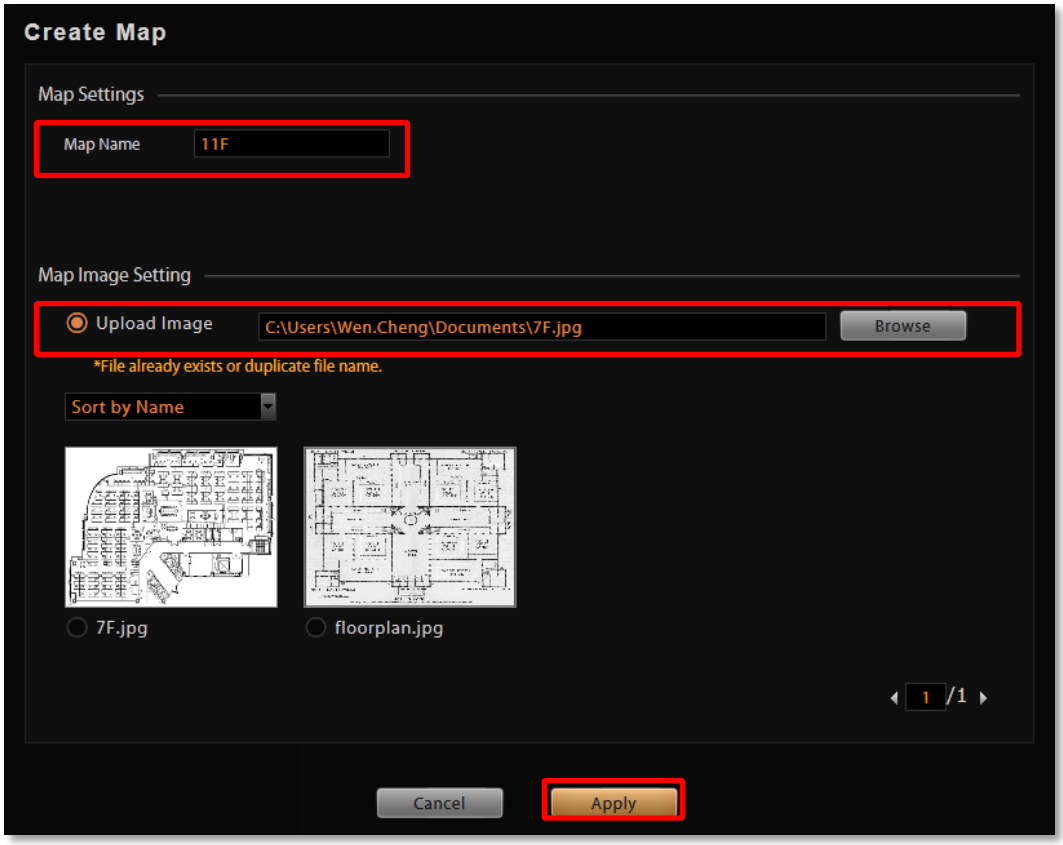


Step 5: Add a Map

By adding a map, you put a picture on the channel, where you may place camera icons to make it an "**e-Map**.



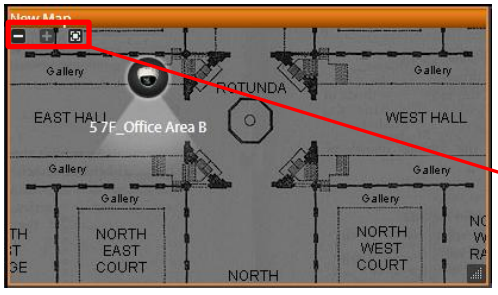
In edit mode, move the mouse over the channel and click to upload a map. Please input the **Map Name**, select the image location (file format must be JPG) and click "**Apply**".



- **Map brightness**:

To change the map brightness, right-click on the map, select "**Map Mask**" and the brightness percentage level.

- **Map size**:



By default, the map will be displayed in its original size. Use the button s on upper left to adjust the map size.

Fit image to channel height
Zoom out
Original image size
Zoom in

- **Edit map title**:

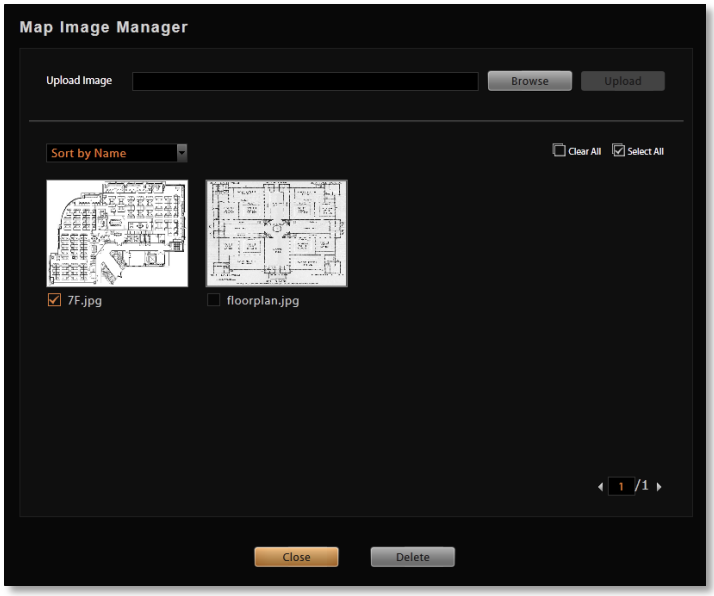
The map title will be shown on channel title bar. In edit mode, right-click on a map channel and select "**Edit Map Information**"

- **Remove the whole map**:

Right-click on the map and select "**Remove**".

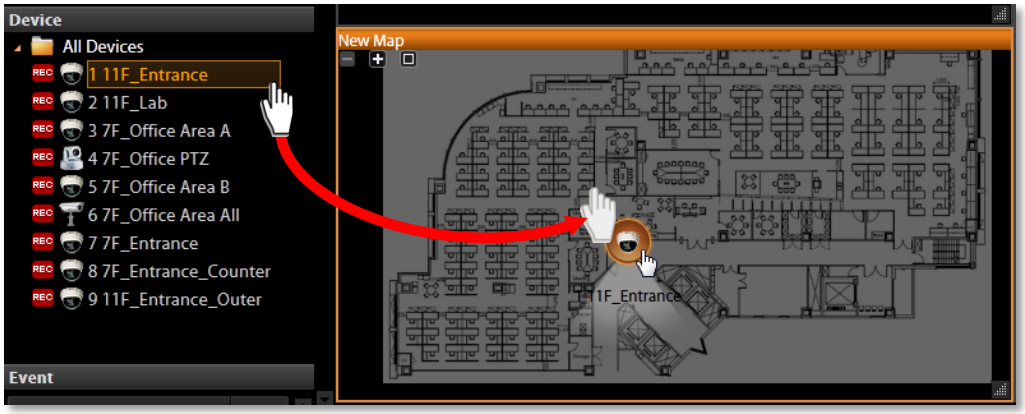
- **Manage maps**:

All the uploaded images are managed under **Map Image Manager**. On **Live View** screen, you may go to → **Map Image Manager** to view, upload or delete the maps.



Step 6: Add Devices to the Map

Pull a device from **Device List** to the map.



●To remove this device from map:

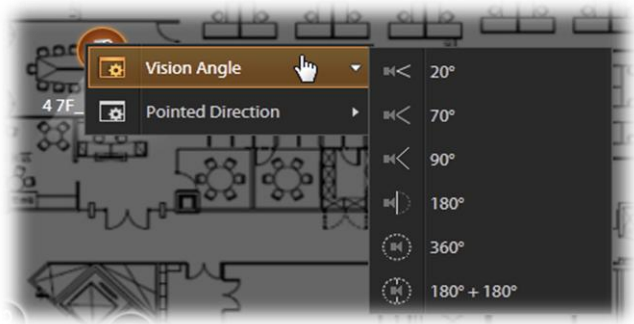
Click

●To move this device:

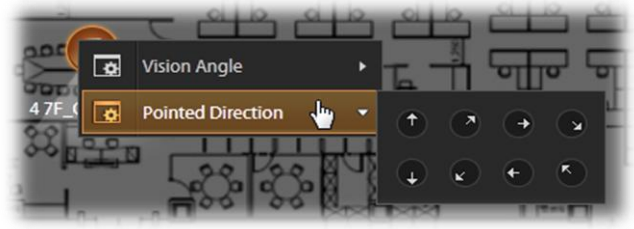
Left-click on the device icon and drag.

●To turn the pointed direction:

Mouse over the viewing angle area, left-click on the clockwise arrow to turn the direction.



●To adjust precise pointed direction: Right-click on the device icon, select "**Pointed Direction**".

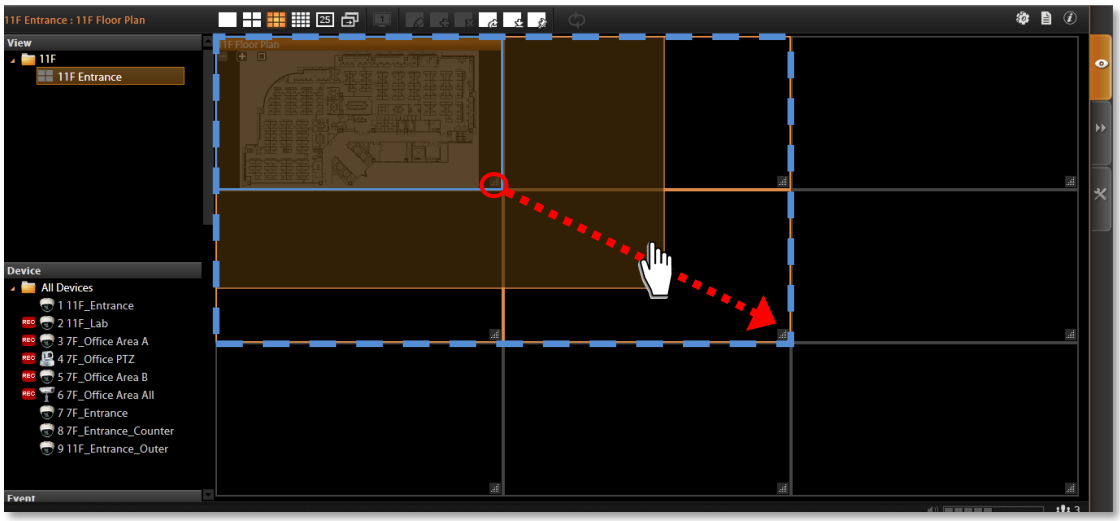


●To adjust device's viewing angle: Right-click on the device icon, select "**Vision Angle**".

Step 7: Adjust the Channel Size & Layout

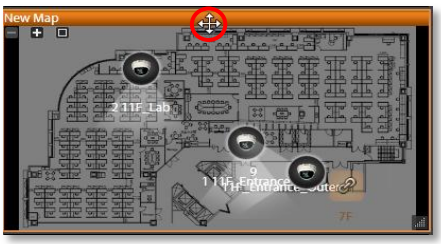
●**Adjust the channel size**:

Click on right lower corner of the channel window, drag and then release.



●**Switch channel windows**:

Click on a channel title until the cross arrow appears, hold it to drag this device or map to your desired channel.



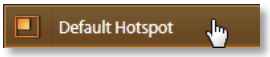
Step 8: Save the View

Click on **View Tool Bar** to save it.

Step 9: Set Default View

To set a View as default, select it in the **View List** panel and then click **on View Tool Bar**. By next time you log in, you will directly enter this View.

Set Default Hotspot Channel

By system default, the global hotspot channel will always be the top left one. You can set any other channel on your live view screen to be the default hotspot channel. Right-click on the channel and select **"Default Hotspot"** 

, then Click on **View Tool Bar** to save it.

Manage the Views

Each View belongs to a specific **View Group**. With the group management, NVR 3.0 Server makes it easy to deal with Views you created for multiple Users.

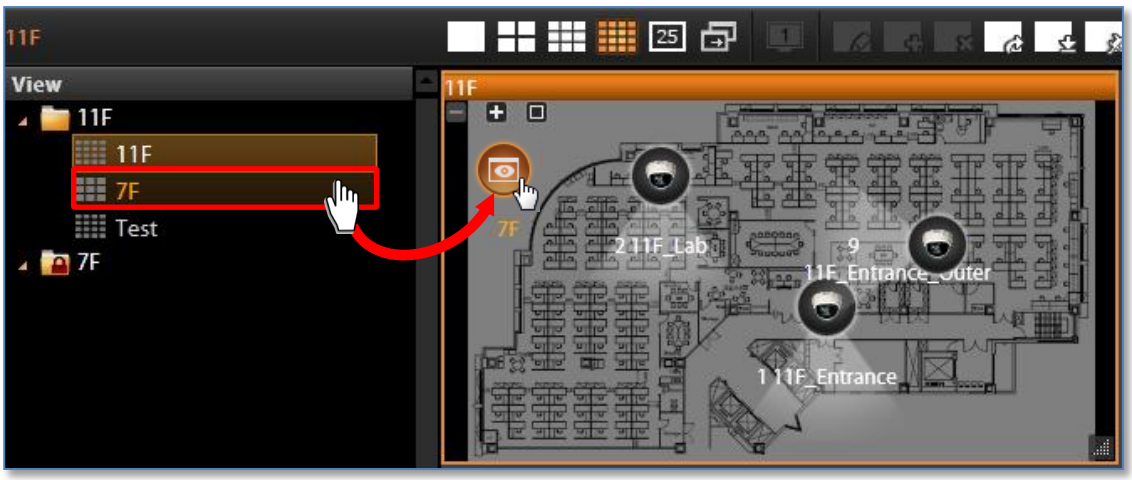
After you created and saved the Views on **Live View** screen, click → **View Manager**.

1. Click on the right arrow icon in front of a group folder to reveal its **Views**.
2. By selecting a **View**, you may directly modify its name in **Name** field.
3. You may change a group's **Group Type**. Upon the change, for example, by changing a group from "**Private**" to "**Public**", all the views belonging to it will be open to every User.
4. Click this icon to add a new group.

5. Click this icon to delete a selected group.
6. Click this icon to copy a selected group to another group.
7. Click this icon to move a selected group to another group.

Set View Link

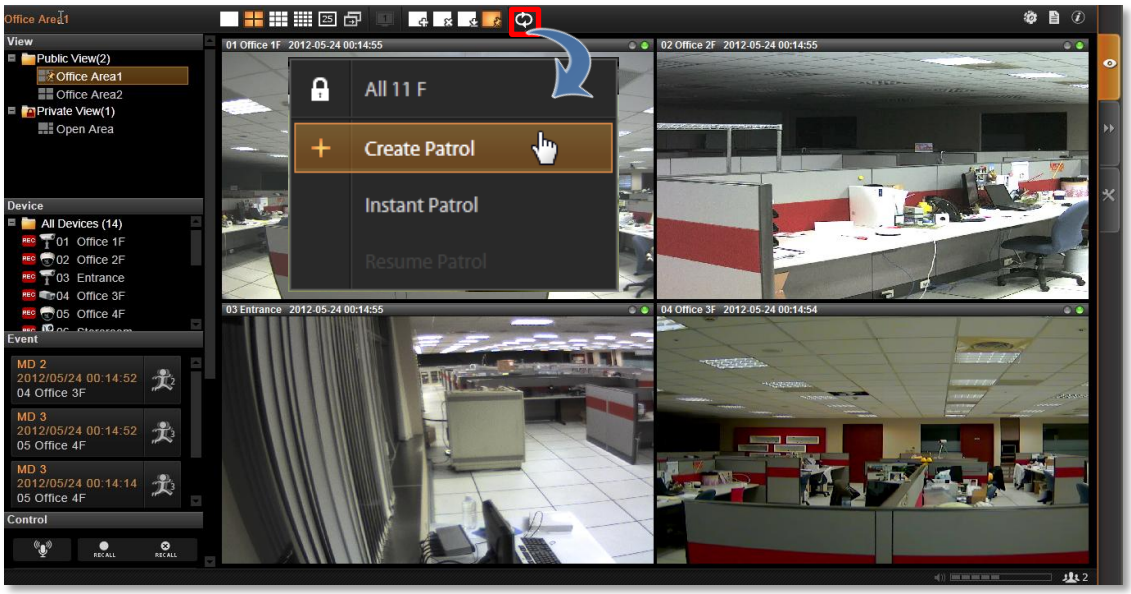
By creating a link button on a view, you can directly be linked to another specific view. On the picture below shows how to create a link button to 7F View on 11F View.



1. Select a View, on which you will place a link button to another view.
2. Click on **View Tool Bar** to enter edit mode.
3. From **View List**, drag the target View to current View, a link button will appear.
4. Click on **View Tool Bar** to save it.

Set View Patrol

You may have the saved Views patrol in turns. In this way, the views in different area in your site may cycle through themselves for you automatically.



On **View Tool Bar**, click then **Create Patrol**.

1. Input **the Patrol Name**
2. Select the **Patrol Type** to be open to all Users or to the creator's account
3. Define the **Global Dwell Time** between the views. If you want to set different dwell time length for individual Views, do not check this option, and configure them separately in below table.
4. Choose the **Views** to display in patrol. If you select the **All Device** group, you will also need to select "**All Device Layout Style**" for it.
5. Click "**Apply**" to save the settings.

6. The saved patrols will be shown on the patrol list after you click on **View Tool Bar**, you may delete and edit a saved patrol or select it to start patrolling.

Tips to Enhance Live View Performance

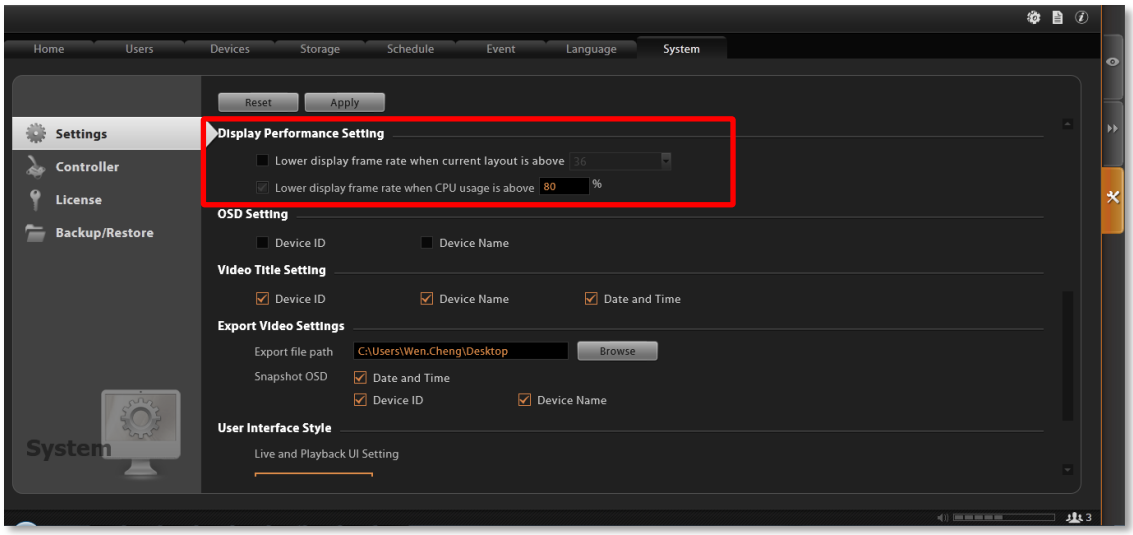
Live view for multiple channels requires sufficient computing power to run the performance. In certain extreme cases, like when viewing several megapixel H.264 video streams at the same time, client computer will be overloaded and hence affect browser's performance. This is a common limitation imposed upon all Windows based video management programs and web browser.

To enhance live view performance, below are several tips you may try:

(1) Use dual stream mode for those devices supporting this function. Enable the dual stream mode and use the stream of lower resolution/frame rate/bit rate for live view, and megapixel resolution stream for recording.

(2) Use another browser client to share these high-resolution channels. Given that there are 32 megapixel channels to be monitored, you may have Layout 1 to display channel 1~16, set Layout 2 to display channel 17~32, then open one browser client to show Layout 1 and the second browser on an extended monitor to show Layout 2.

(3) Have NVR automatically decode only I frame for live view stream when system loading is high. Go to **Setup** page → **System** tab→ **Settings** → **Display Performance Settings** for the settings. You may choose to enable the **Decode I frame** function under either or both of the conditions: when current layout is displaying channels above certain number, or when the CPU usage is above certain percentage.



Let Windows Automatically Starts up NVR Live View

You may have the client application automatically run and open the live view after Windows starts. In this way, you may save steps and time before you eventually see the desired live view screen. Additionally, whenever a power breakdown takes place, the live view may recover as soon as your computer resumes.

If more than one users would log in to this computer, this tip might not be suitable due to account security issues.

1. On NVR 3.0 server, set a **default View** for your account. For detailed procedures, please refer to this section in this manual: Customize Views on page 83.
2. Set **Auto-login** for your Workstation client or web browser client. For detailed procedures, please refer to this section in this manual: Set Auto Login on page 30
3. If you are using a browser client, open the browser, and set the NVR server ip as default homepage.
4. Set your browser or Workstation application to start right after Windows has started. Click **Windows Start** → **Programs** → **Startup** to open the **Startup** folder, and drag the application shortcut into it. In your case, you will have to drag the Internet Explorer shortcut or NVR3Workstation shortcut into the **Startup** folder.

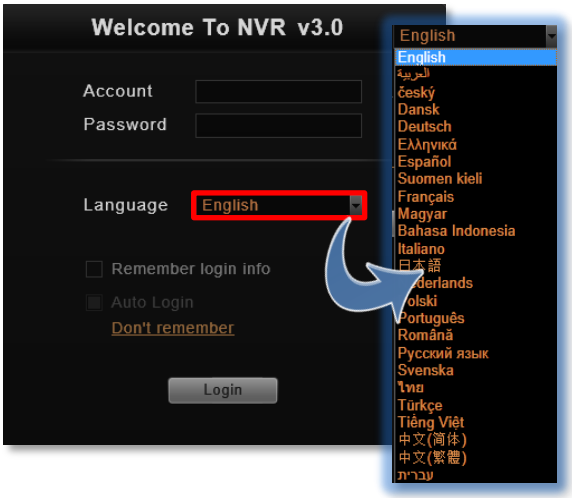
5. The next time you start Windows, NVR 3.0 live view will be running automatically, and you may start monitoring the system in no time.

Customize System Language

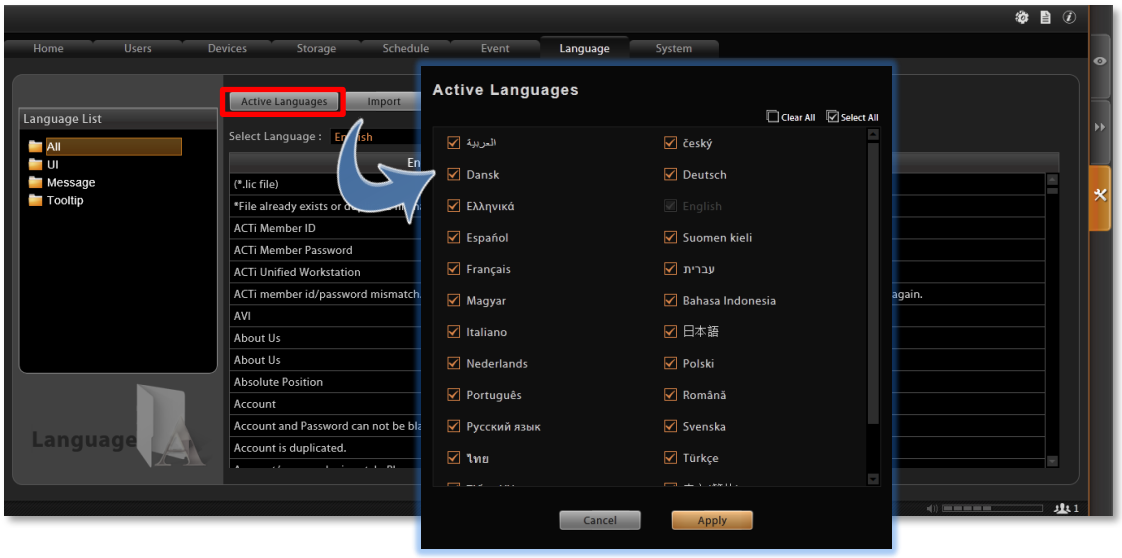
NVR server supports multiple languages for user interface display. There are already **10** translated language files in the server system. Each language is open to customization based on your own needs. This section will describe how to choose or customize language strings for your site.

Login Screen the Languages List

You may decide which languages to be selectable on Login screen. The chosen languages will appear on the "**Language**" dropdown list.



Go to **Setup** page →**Language** tab, click "**Active Languages**". On popup window, check the languages you need, and click "**Apply**". By default, all languages are selected, as the default system language, **English** and **Traditional Chinese** are not removable from this list.

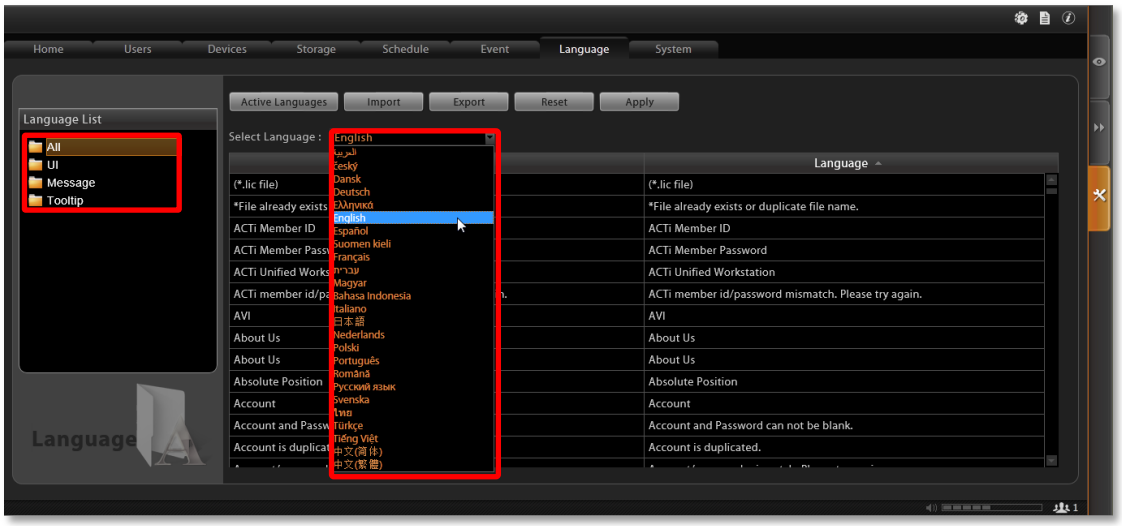


Edit User Interface Wordings

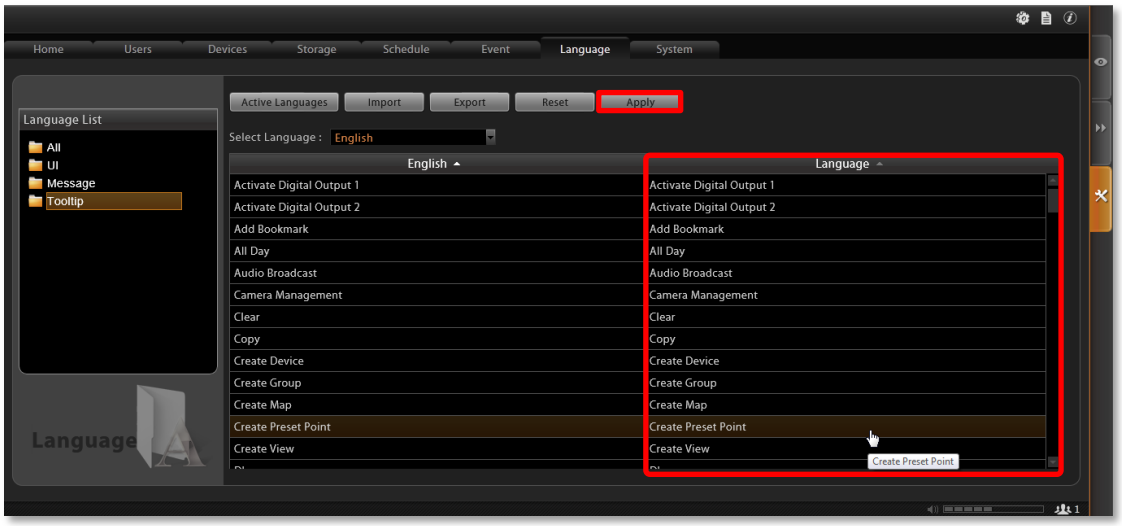
Each language file contains four editable string tables. Each table displays the default wordings in English and the translation in target language.

To view each table:

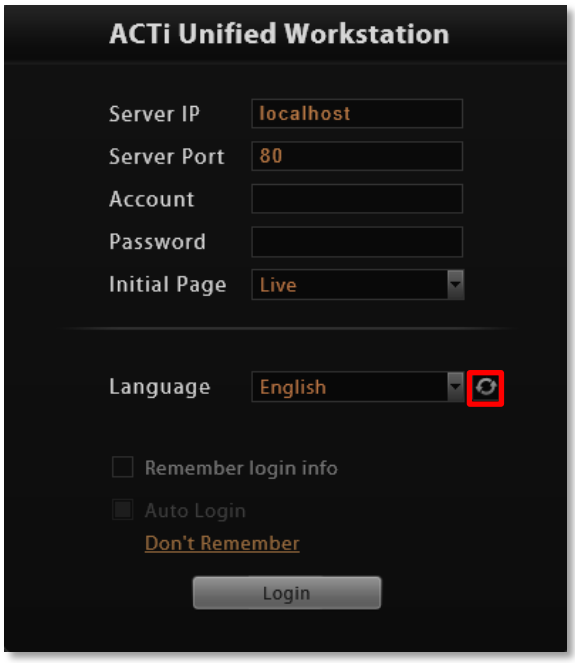
1. Select the language from "**Select Language**" dropdown list, then select a table from the "**Language List**" list on the left column.



2. Your target language will be displayed on the right column, while the default system language "**English**" appears on the left for reference. Click in any field on right column to customize your desired wordings, and click "**Apply**" to overwrite the current.

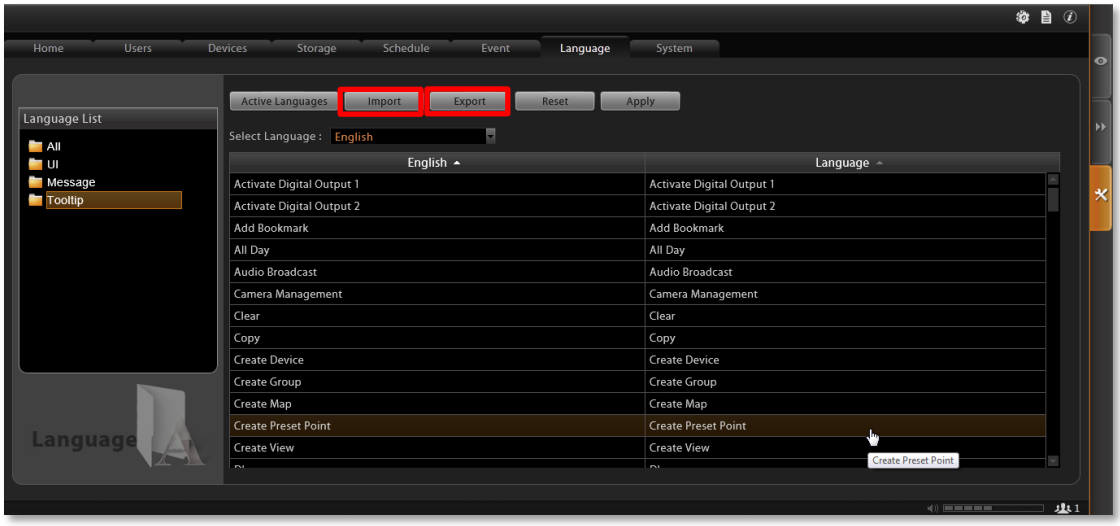


The new string will be applied by next time you log in. If you log in as an **NVR3 Workstation client**, please press button on **Login** page to synchronize with the latest modified language file, then log in to the system.



Export / Import Language String File

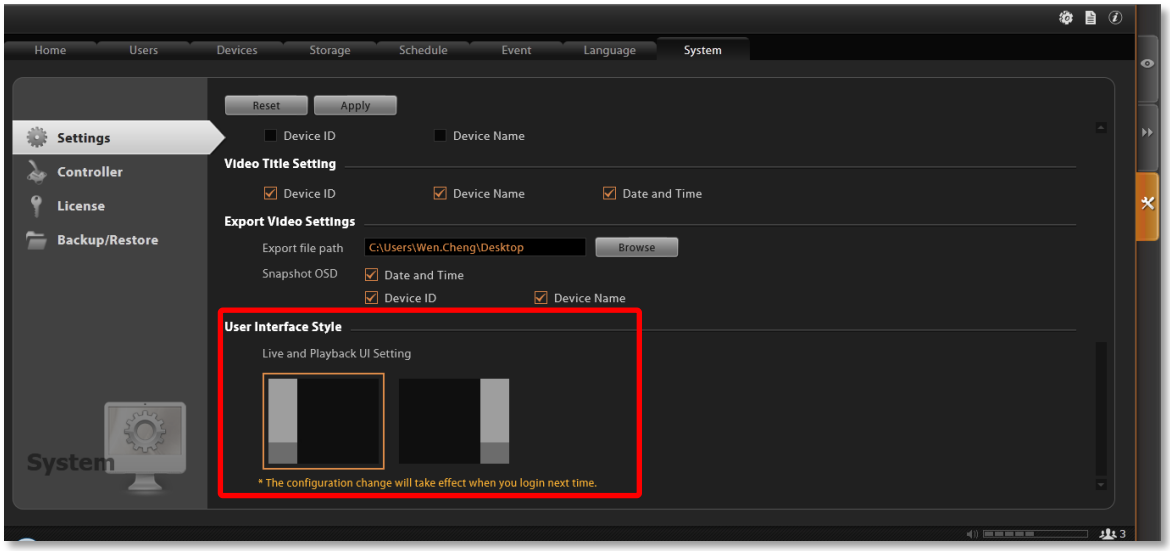
You may also click "**Export**" to export the language file as .xml format to edit in **Notepad**, or "**Import**" to import a language file to use in the system.



In general, it is suggested that you always save a modified language table with a different file name in a location other than default system language folder *C:\Program Files\ACTi Corporation\NVR3\Language*, then import it to use. In this way, you can avoid overwriting the original language file.

Display Configurations

You can change the user interface style by arranging the main screen and **Panel/Device List** on the right or left. Go to **Setup** page→**System** tab→**Settings**, in **User Interface Style** section, select the setting style then click "**Apply**". The change will be applied upon your next login.

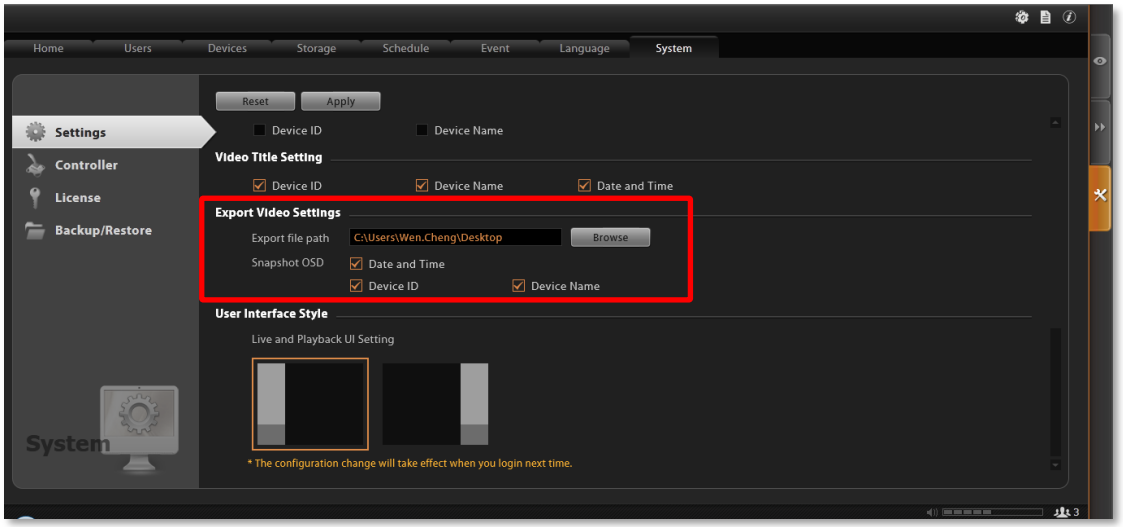


Video & Snapshot Export Configurations

The snapshots taken by Users on **Live View** and all exported video files are saved to a default file location, and you may configure the destination on NVR server. Go to **Setup** page→**System** tab→**Settings**, in **Export Video Settings** section, click "**Browse**" to choose the Export file path.

You may also define what information is printed on each snapshot by checking the items: **Date and time, Device ID** and **Device Name**.

These configurations will take place after you click "**Apply**".



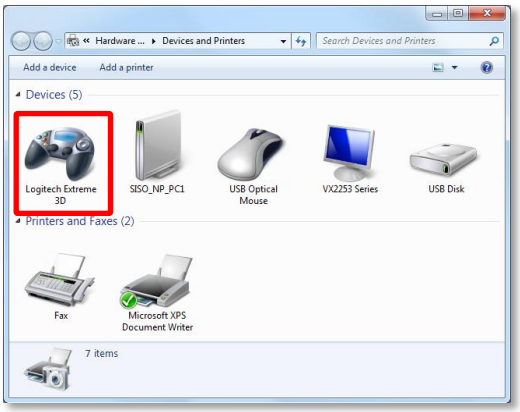
Joystick

On NVR 3.0, other than user interface PTZ panel and mouse operation, you may also control the PTZ movements by physical controllers. NVR 3.0 supports two types of controllers, which both feature in a joystick and twelve buttons for users to assign specific actions.

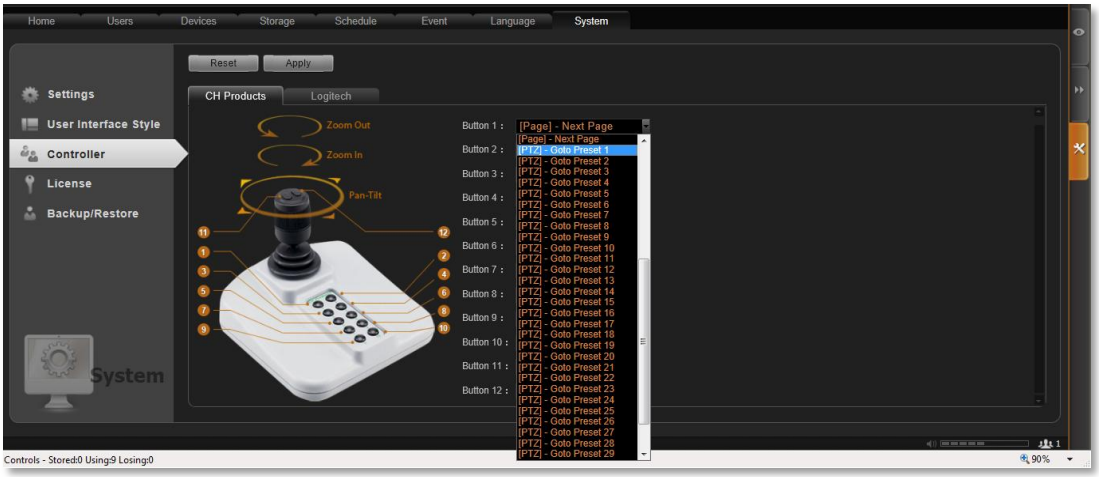
Model: **IP Desktop**
Manufacturer: CH Products

Model**: Extreme™ 3D Pro**
Manufacturer: Logitech

How to Install the Joystick



1. Log out from NVR server.
2. Connect the controller device to your computer. To make sure the device is installed properly, open **Windows Start menu** and enter **Devices and Printers** to check the status.
3. Log in to NVR server, go to **Setup** page →**System** tab, enter "**Controller**" section and select your product.
4. You may assign specific commands from dropdown list to buttons 1~12 of the controller. When setting is done, click "**Apply**". The modification you did on one controller model will be applied to the other joystick model as well.



5. To validate its function, go to **Live View** page and focus on a PTZ device channel to operate the supported PTZ operations.

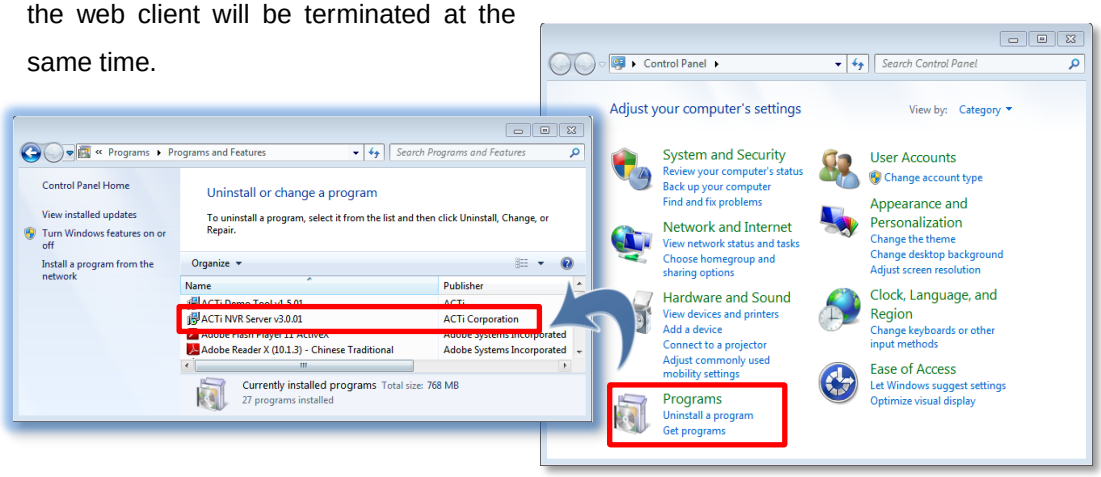
Un-install Server Software

In certain cases, un-installation of NVR system is necessary, for example, (1) you want to terminate NVR server and clear all the evidence due to privacy and security reasons, (2) you need to reinstall the system due to an unsuccessful installation.

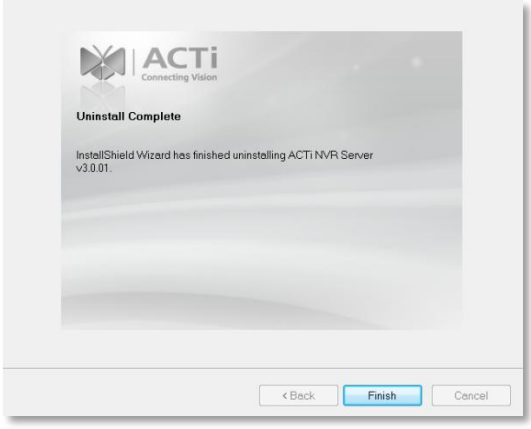
Before starting un-installation, **please backup important data**(please refer to Backup System Data on page 102) first and prepare the NVR server install shield application. This chapter will describe un-installation process.

Step 1: Remove NVR 3.0 Server Program

1. Go to **Windows Control Panel→ Add/Remove Programs** (in Windows Server 2003/Windows XP) or **Programs→ Programs and Features** (in Windows Vista /Windows 7/Windows 2008) to remove it. When you un-install NVR server program, the web client will be terminated at the same time.



2. After you choose to uninstall "**ACTi NVR Server v3.0.02**" program, the uninstallshield will execute and notify you when it is completed.

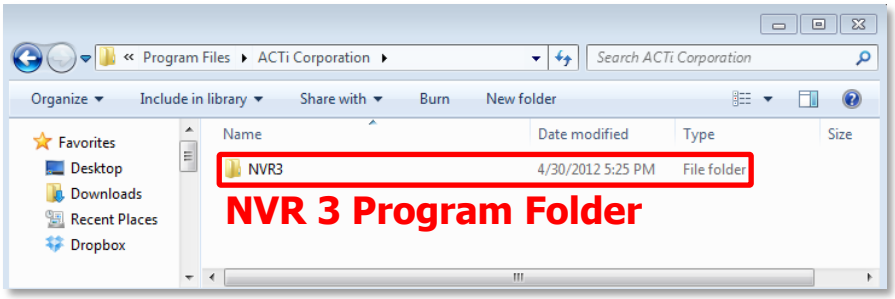


Step 2: Remove NVR 3.0 Server Program Folder (Optional)

If you are performing a complete un-installation without leaving any NVR server related data on the current computer, you may consider deleting this folder.

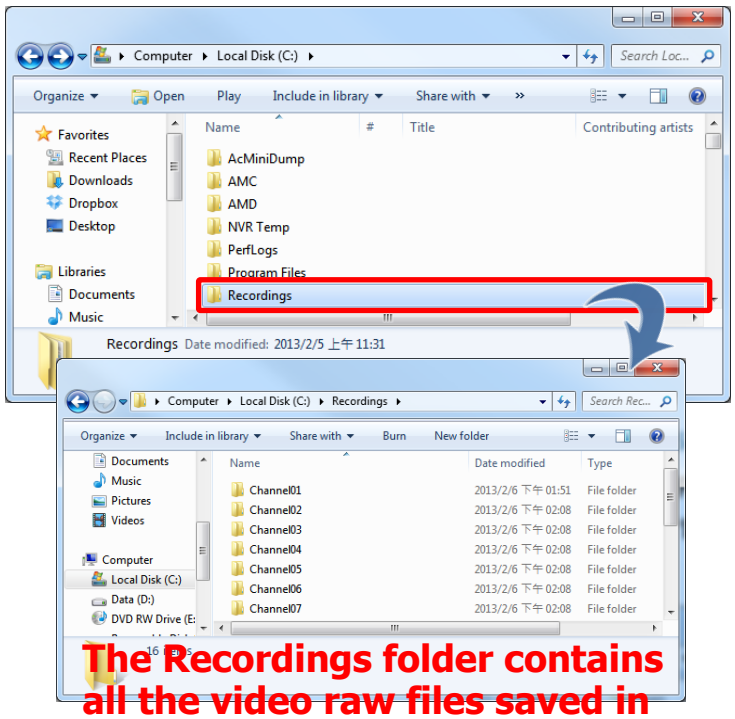
After un-installation, the **NVR3** system folder will remain under ACTi product folder **ACTi Corporation** on your hard drive, the system configuration data here will not be removed until you delete them manually. By default, the path of **NVR3** system folder is *C:\Program Files\ACTi Corporation*.

However, keeping this folder is convenient for a un-installation followed by an instant re-installation, for the previous system settings can directly be applied to the new server.



Step 3: Remove the Recordings Folder (Optional)

Remove the whole **Recordings** folder(s) that saves the recorded video files on storage hard drive(s). If you selected multiple storage hard drives via **Setup** page → **Storage** tab → "**Disk Drive List**", then the server may have generated one **Recordings** folder under each selected drive. If you have renamed the folders or change the locations, please make sure you find the correct path.



Backup System Data

Making regular system backups is always recommended in case of unexpected disasters or accidents that may damage NVR server. Other than this, you may need to perform an on-demand backing up to (1) migrate the whole NVR server data to another computer, or (2) re-install the NVR server on current computer. There are several types of data on NVR server essential to your surveillance system, please consider your purpose and follow the below instructions to create their backups:

Regular Backup (system settings only)

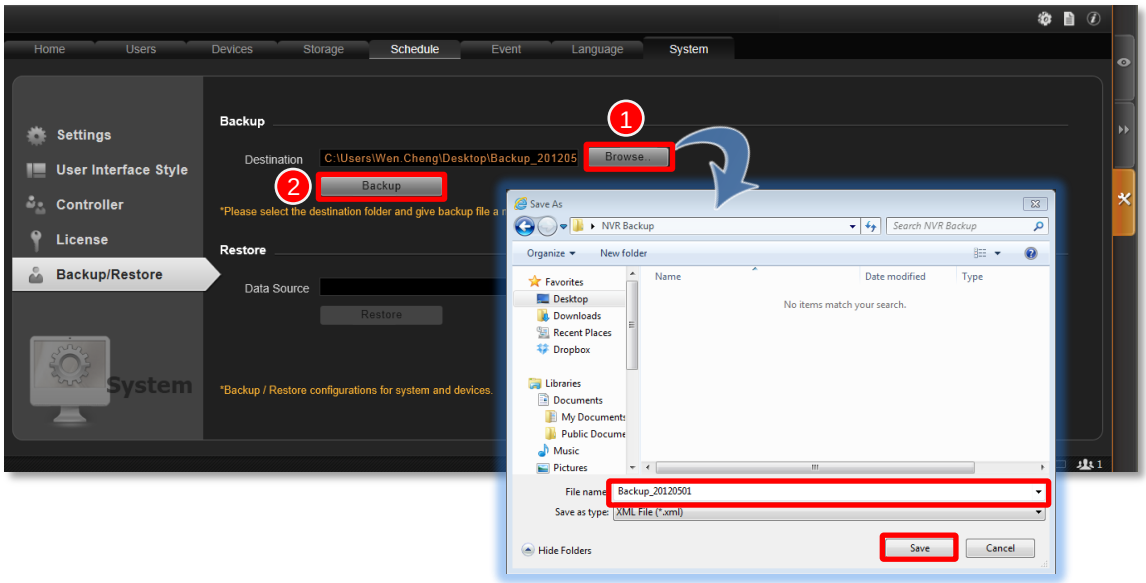
NVR server can create a backup file of the whole system settings within one click. The settings being backed up include the following properties you set for system: (1) **Users** (2) **Device** (3) **Storage** (4) **Schedule** (5) **Event** (6) **System** →**Settings** / **User Interface Style** / **Joystick**, and (7) the saved **Views** in **Live View** page.

Complete Backup (system settings + video files)

Besides system settings, some organizations may want to back up the video recording occasionally in case that the recording hard drives may fail. The recording files (*.raw) can only be played on the playback utility **Archive Player**. You may download it from http://www.acti.com/utility

Step 1: Backup System Settings

1. Go to **Setup** page →**System** tab→ **Backup / Restore**
2. In **Backup** section, click "**Browse**" to select the destination for backup file, the file will be saved as *Backup_YYYYMMDD.xml* file. Then click "**Backup**" to export the file.

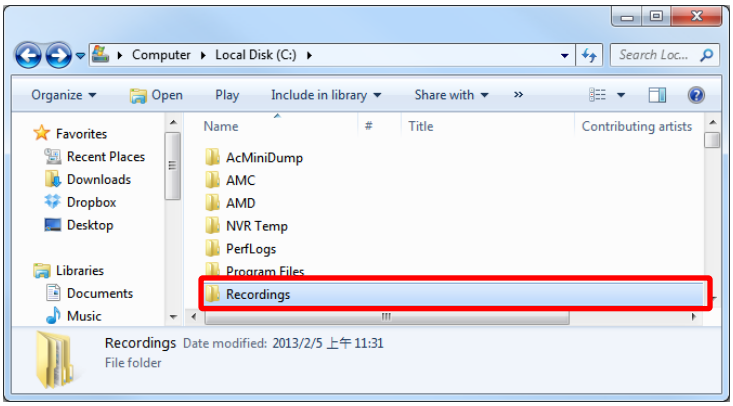


Important Notice

The license data is not included in the system backup file. You have to preserve the license key information provided in email or printed card to you after the purchase takes place.

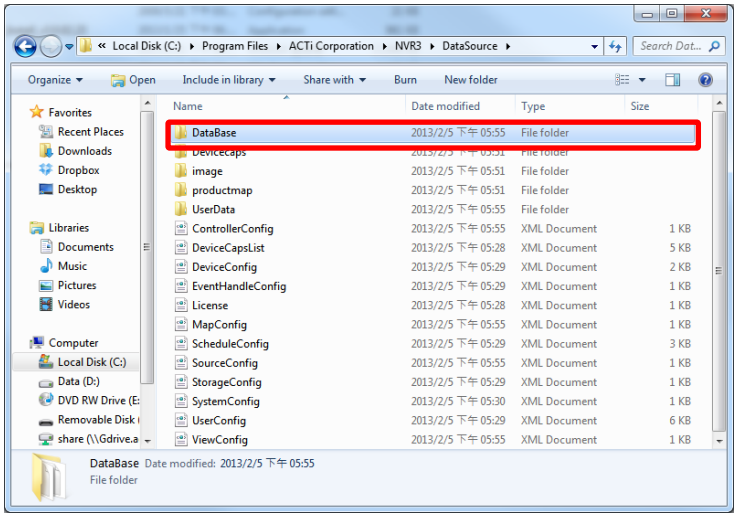
Step 2: Back up Recording Files Folder (Optional)

Back up the whole **Recordings** folder(s) that saves the recorded video files on storage hard drive(s). If you selected multiple storage hard drives via **Setup** page → **Storage** tab → "**Disk Drive List**", then the server may have generated one **Recordings** folder under each selected drive. If you have renamed the folders or change the locations, please make sure you find the correct path.



Step 3: Back up Recording Files Index Folder (Optional)

This step is necessary for NVR 3.0 server migration between two server computers. The recording files index folder contains important video index data NVR server needs to process recorded video clips. Enter the server program folder **ACTi Corporation\NVR3\DataSource**, and back up the **DataBase** folder (where stores the recording files index data).


« Local Disk (C:) ▸ Program Files ▸ ACTi Corporation ▸ NVR3 ▸ DataSource ▸
Search Dat...
Organize
Open
Include in library
Share with
Burn
New folder
Favorites
Recent Places
Downloads
Dropbox
Desktop
Libraries
Documents
Music
Pictures
Videos
Computer
Local Disk (C:)
Data (D:)
DVD RW Drive (E:
Removable Disk
share (\\Gdrive.a
Name
Date modified
Type
Size
DataBase 2013/2/5 下午 05:55 File folder
DeviceCaps
image 2013/2/5 下午 05:51 File folder
productmap 2013/2/5 下午 05:51 File folder
UserData 2013/2/5 下午 05:55 File folder
ControllerConfig 2013/2/5 下午 05:55 XML Document 1 KB
DeviceCapsList 2013/2/5 下午 05:28 XML Document 5 KB
DeviceConfig 2013/2/5 下午 05:29 XML Document 2 KB
EventHandleConfig 2013/2/5 下午 05:29 XML Document 1 KB
License 2013/2/5 下午 05:28 XML Document 1 KB
MapConfig 2013/2/5 下午 05:55 XML Document 1 KB
ScheduleConfig 2013/2/5 下午 05:29 XML Document 3 KB
SourceConfig 2013/2/5 下午 05:55 XML Document 1 KB
StorageConfig 2013/2/5 下午 05:29 XML Document 1 KB
SystemConfig 2013/2/5 下午 05:30 XML Document 1 KB
UserConfig 2013/2/5 下午 05:29 XML Document 6 KB
ViewConfig 2013/2/5 下午 05:55 XML Document 1 KB
DataBase Date modified: 2013/2/5 下午 05:55
File folder

Step 4: System Log (Optional)

The system log records the operations Users perform during logging in to NVR server. You may export the system log of latest three days as *.csv file as backup. Please refer to the section in this manual: Export the Log on page 74 for instructions.

Restore System Data

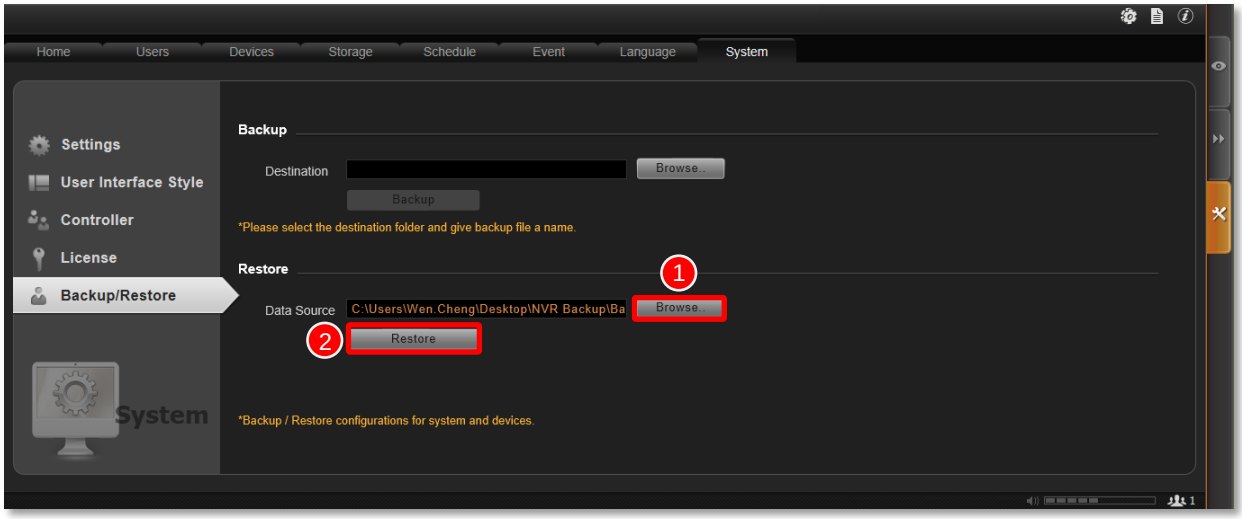
Before starting restoring the system, make sure you have done the following:

(1) **Re-activate the license**. If you have done un-installation previously, and the number of channels to be recovered is over **16**. Please prepare the license key information for online activation or the activation file(.lic) for offline activation, and follow the instructions Activate the License on page 24 to activate your license. The license should be activated before settings are restored so that the licensed channels are ready for recovery.

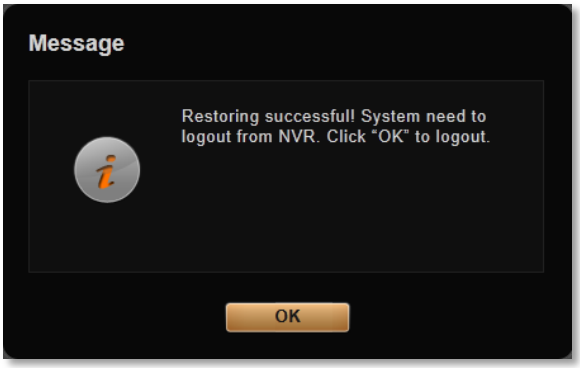
(2) The backup file(.xml).

To start,

1. Go to **Setup** page →**System** tab→ **Backup / Restore**
2. In **Restore** section, Click "**Browse**" to select the backup file, and then click "**Restore**" to start restoring the settings.



3. The restoring process requires logging out of NVR server. After restoring is done, you may log in using your previous user account properties.



System Migration

NVR server system migration is necessary when there is a need to upgrade your NVR server for functions supported in newer version, or a replacement of current server computer. The migration process will involve a series of different procedures including backup, un-installation, installation and restoration, which should be executed carefully to prevent from loss of important data. You should go though the instructions of required procedures before the migration starts. This chapter will lead you through the procedures for managing a safe migration process.

Migrate from NVR 2.3 to NVR 3.0

The NVR 3.0 server has a disparate database structure from previous ACTi NVR systems'. Therefore, the backup files and video files created from NVR 2.3 server are not compatible with NVR 3.0 server.

ACTi provides a backup converter utility to create a system settings backup directly from NVR 2.3.03 for NVR 3.0 to restore, in this way, you may directly carry the whole server settings to NVR 3.0 system with a single backup file.

Therefore, if you are currently using an ACTi NVR 2.X server product (Enterprise or Professional), please upgrade it to 2.3.03 or later versions. You may download the patch from http://www.acti.com/product/detail/Video_Management_System/NVR_Enterprise

NVR 2.3 to NVR 3.0 Server Data Compatibilities

Data Type	Compatibility	Description
License Data	X	The license key for NVR 2.3 server is not compatible to NVR 3.0. If you require more than 16 channels to use on NVR 3.0, please contact your system provider to purchase new license key.
System Settings	V	Please download the utility **Config Convertor** from ACTi corporate website and use it to export system settings from NVR 2.3 server to an NVR 3.0 compatible file. The settings for User, Devices, Storage, Schedule, Event and System can be exported as a backup file. You may download the utility from : http://www.acti.com/utility
Recording Files	X	Individual video files recorded by NVR 2.3 server are not playable on NVR 3.0 server. Please make a copy of these recordings and use the playback utility **Archive Player** to play them. You may download it from : http://www.acti.com/utility

Please have the following data prepared before the migration takes place: (1)NVR 3.0 install shield application file, (2) NVR 3.0 license key, (3) NVR 2.3 server backup file(.xml), created by **Config Converter**.

To start,

1. Uninstall all NVR 2.3 components including **Server** and **Workstation** programs, and then restart the computer. (This step is required when NVR 3.0 server is to be installed on the same server computer where NVR 2.3 server locates, as **NVR 2.3 server and NVR 3.0 server cannot co-exist on the same computer due to system conflict**).
2. Install NVR 3.0 server. (refer to Server Installation on page 18)
3. Activate NVR 3.0 license (refer to License and Activation on page 22)
4. Restore the system settings with backup file(.xml). (refer to Restore System Data on page 104)

Migrate NVR 3.0 to another Server Computer

For the migration of NVR 3.0 server between two computers, make sure you have contacted ACTi Customer Help Desk for assistance in resetting your previous activation record on ACTi license data server, so that this license key can be activated again with another MAC address.

Please have the following data prepared before migration takes place: (1) NVR 3.0 install shield application file, (2) NVR 3.0 license key or activation file (.lic) (3) NVR 3.0 server backup file(.xml). (4) make sure you have made a copy of previous NVR 3.0 recordings folder, (5) a copy of NVR 3.0 recording index file folder.

To start,

1. Install NVR 3.0 server on new server computer (refer to Server Installation on page 18).
2. Activate NVR 3.0 license on new server computer (refer to License and Activation on page 22).
3. Copy the whole backup recordings folder(s) to the storage hard drive(s).
4. Copy the whole backup **DataBase** folder to **ACTi Corporation\DataSource** folder on server computer (default path is C:\Program Files\ACTi Corporation\NVR3\ DataSource\). Remember to replace the existing folders that are with the same folder names (refer to Backup System Data on page 102).
5. Restore the system settings with backup file (refer to Restore System Data on page 104).
6. Uninstall the NVR 3.0 server on previous computer and remove sensitive files if needed (refer to Un-install Server Software on page 100).